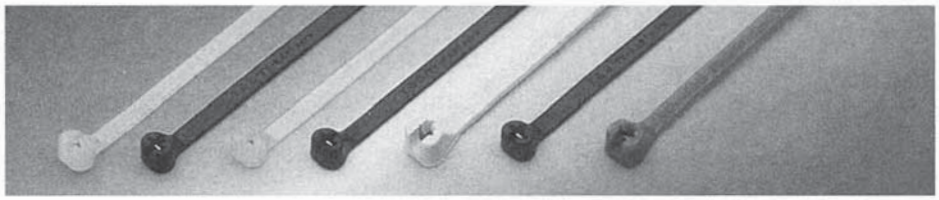
Cable Ties & Fastening Systems Catalogue

Thomas&Betts

Ty-Rap® Cable Ties and Fastening Systems



CONTENTS

Cable Tying System 2

Cable Ties 4-8

Cable ties for Special Applications 9,10

Releasable Cable Ties 11

Safe-Ty, Low Profile Cable Ties 12

Mounting Bases 13-18

Lashing Straps 19

Deltec Cable Ties and Accesories 20-22

Spiral Wrapping and Grommet Gland Edging 23

Ty-Fast, One Piece Cable Ties 24

Ty-Grip Fasteners 25

Cable Tie Installing Tools 26,27

Stainless Steel Cable Ties and Accessories 28-33

Tensioning Tools for Stainless Steel Cable Ties 34

Stainless Steel Banding 35

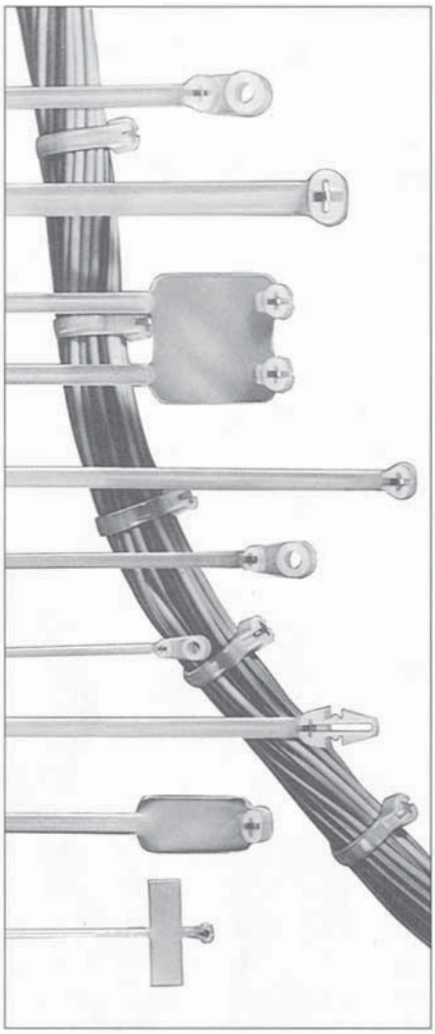
Material Selection Ordering Guide 36-42

Index 43-46

Mil. Spec Numbers 47

Ty-Rap®

Cable tying system

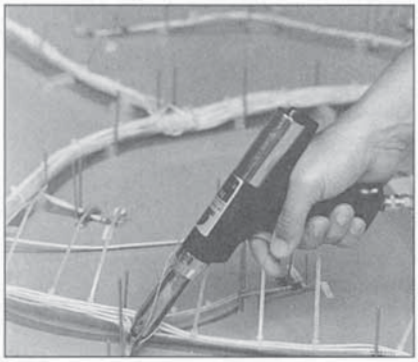


TY-RAP cable ties

Harnessing and point-to-point wire bundling are an integral part of modern electrical and electronic packaging. The need to accomplish harnessing and bundling as economically as possible led to the development of various techniques. The most advanced and probably best known is the TY-RAP cable tying system originated by Thomas & Betts.

The TY-RAP tying system incorporates a complete line of innovative products designed to increase productivity and lower the installed cost of harness fabrication and wire bundling. These products include a full range of cable ties, identification ties, clamps, bases, harnessing aids and installing tools. Utilization of the TY-RAP tying system for all wiring jobs, large and small, will speed and improve harnessing and wire bundling while saving you money.

Harnessing



The TY-RAP tying system for volume tying combines a high-speed semiautomatic tool (Cat, No. TR227), and a wide selection of harnessing aids. The harness, which is fabricated off the surface of the board, utilizes various harnessing aids, including retainers, supports, posts, and guides which allow the wire to be quickly routed without the use of nails. Since the harness is fabricated off the surface of the board, the speed of placement and tying is increased.

The TY-RAP installing tool assists the operator in the installation of the TY-RAP tie. Ties are cinched by hand and the excess tail is cut off precisely flush with the head-all in less than one second.

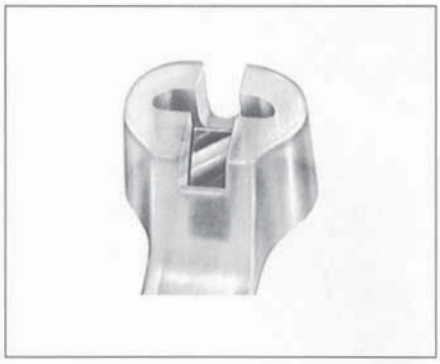
Conventional harnessing is also improved with the TY-RAP tying system. Each item in the system is designed to complement the convenience and reliability features of all other items. The various hand tools, for example, have narrow noses and slim shapes for work in high-density areas or between nails. A squeeze of the trigger cinches up the tie to a preset tension. The exclusive, stainless steel locking wedge embedded in the nylon head secures the tie with a "grip of steel." The excess tail is cut flush to the head leaving no sharp corners or ragged edges. The operation is fast and easy.

When you choose the TY-RAP tying system, you can select from a wide variety of ties, clamps, identification devices, mounting bases and harnessing aids-each of the highest quality and design integrity. All combine to lower the costs arid improve the reliability of harness fabrication.

Point-to-point wiring

Point-to-point wiring and long-distance wire runs are necessary for many electrical and electronics projects. Here, too, the TY-RAP tying system offers more than simply a tying product. The full line of color-coded TY-RAP ties, clamps and identifying straps can be hand or tool installed. Standoff's, bulkhead mounting base, adhesive mounting bases and a wide variety of clamping devices will meet just about any requirement.

Self-locking TY-RAP~ ties lock with grip of steel



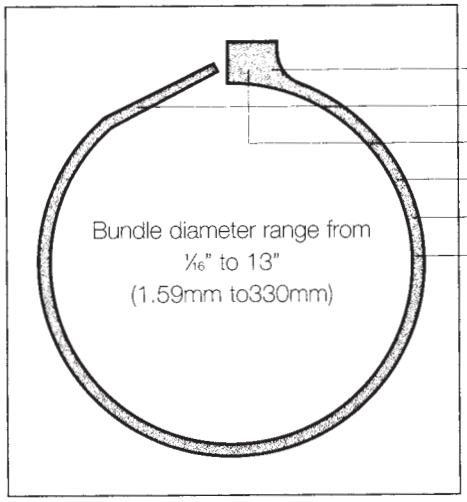
An exclusive locking device is your assurance of reliability. The stainless steel locking device is permanently embedded in the nylon head. The tie is infinitely adjustable to any diameter within its own range. All the self-locking ties exceed the minimum pullout strength requirements specified in MIL-S-23190,

The self-locking tie is particularly well suited for both point-to-point wiring and harness fabrication.

If large quantities of ties are being installed TY-RAP installing tools will increase productivity and reduce operator fatigue.

Ty-Rap®

Cable tying system



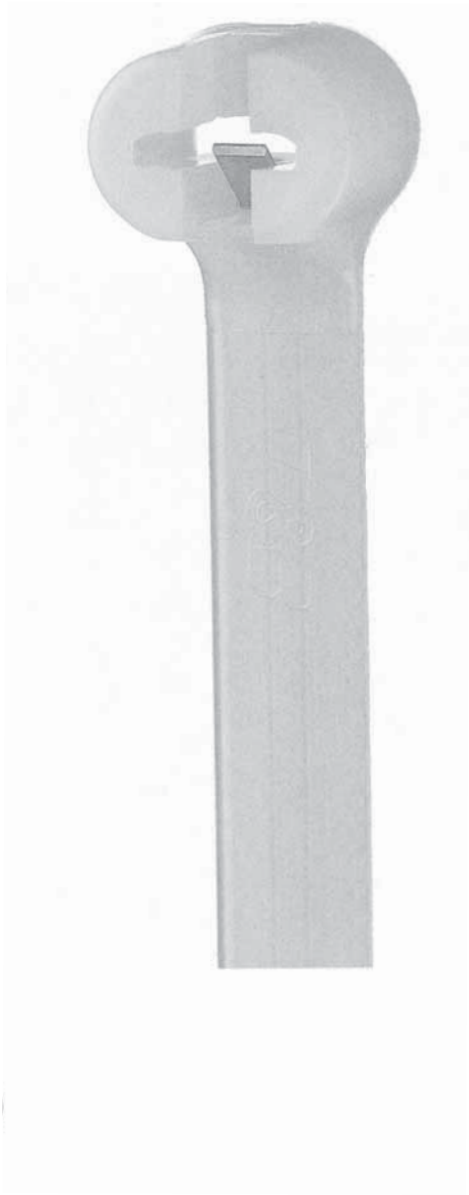
TY-RAP cable tie features

- *Low-profile head, looks good-won't snag*
- *Easy to install, won't slip, mechanic's grip*
- *Stainless steel lock, maintains right tension*
- *Infinitely adjustable design, always the "right" size*
- *Smooth molded body, less stress-sensitive than notched type ties*
- *Ribbed and stippled back, won't slip on bundle*
- *Registered as Standard 1565*
- *Qualified under OPC 23190*

TY-RAP cable ties give you these important features and benefits.

- Smooth body design with smooth rounded edges and uniform cross sections. They have no notches, thereby reducing stress areas that can weaken the tie, causing brittle breakage especially in cold and dry conditions. The smooth design also avoids damage to cable insulation,
- Stainless steel locking device in the head. This means they are infinitely adjustable within their bundle range. You get the right bundle tightness every time.

Other brands of cable ties have teeth (notches) along the body that mate with a ratchet-type pawl in the head. This design offers no adjustment between the teeth which means they can be too tight or too loose on the bundle. In addition, the notched design may cause brittle breakage and cause damage to cable insulation.



How to order color-coded TY-RAP ties and accessories

Color	Suffix No.
Black (outdoor)	X
Brown	I
Red	2
Orange	3
Yellow	4
Green	5
Blue	6
Purple	7
Gray	8
White	9

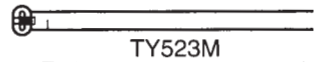
Packaged for handling convenience

Natural nylon is standard. For colored TY-RAP ties, add the following suffix numbers to catalogue numbers. Example: TY25M-2 would be red TY25M. (Consult customer service for ordering information.)

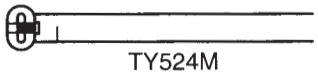
Ty-Rap®

Cable Ties

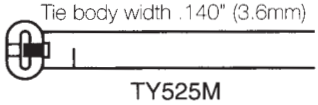
Standard nylon 6/6 cable ties



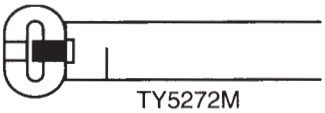
TY523M
Tie body width .091" (2.4mm)



TY524M
Tie body width .140" (3.6mm)



TY525M
Tie body width .184" (4.8mm)



TY5272M
Tie body width .270" (7.6mm)

Dist. pk Cat. No.	Bulk Pkg Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max Wire Bundle Dia. (in.)	Max Wire Bundle Dia. (mm)	Military Standard Part No.	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pack	Bulk Pkg. Quan.
TY523M	TY23M	.091	2.40	3.62	91.9	.625	15.8	MS3367-4	18	80	100	1000
TY52315M	TY2315M	.091	2.40	7.00	117.8	1.500	38 1	—	18	80	100	1000
TY5232M	TY232M	.091	2.40	8.00	203.2	2.000	50.8	—	18	80	100	1000
TY5234M	TY234M	.091	2.40	14.00	355.6	4.000	101.6	—	18	80	100	1000
TY524M	TY24M	.140	3.60	5.50	139.7	1.125	28.5	MS3367-5	40	178	100	1000
TY5242M	TY242M	.140	3.60	8.19	208.0	2.000	50.8	—	40	178	100	1000
TY526M	TY26M	.140	3.60	11.10	281.9	3.000	76.2	—	40	178	100	1000
TY5244M	TY244M	.140	3.60	14.50	368.3	4.000	101.6	—	40	178	100	1000
TY525M	TY25M	.184	4.80	7.31	185.6	1.750	44.4	MS3367-1	50	222	100	1000
TY5253M	TY253M	.184	4.80	11.40	289.5	3.000	76.2	MS3367-7	50	222	100	1000
TY528M	TY28M	.184	4.80	14.20	360.6	4.000	101.6	MS3367-2	50	222	100	1000
TY5272M	TY272M	.270	7.60	8.00	203.2	2.000	50.8	—	120	534	50	500
TY527M	TY27M	.270	7.60	13.40	340.3	3.500	88.9	MS3367-3	120	534	50	500
TY5275M	TY275M	.270	7.60	18.00	457.2	5.000	127.0	—	120	534	50	500
TY5277M	TY277M	.270	7.60	24.30	617.2	7.000	177.8	—	120	534	50	500
TY529M	TY29M	.301	7.60	30.00	762.0	9.000	228.6	MS3367-6	120	534	50	500
TY53510M	TY3510M	.320	8.13	35.00	889.0	10.000	254.0	—	175	778	25	—
TY54513M	TY4513M	.320	8.13	45.00	1143.0	13.000	330.2	—	175	778	25	—

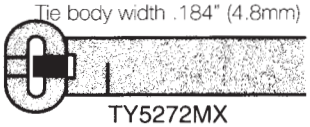
Cable ties made from natural nylon 6/6 are excellent performers in most applications. Nylon 6/6 is recommended for use in temperatures ranging from 185°F to -40°F (85°C to -40°C).

Nylon 6/6 weather resistant

TY523MX
Tie body width .091" (2.4mm)

TY524MX
Tie body width .140" (3.6mm)

TY525MX
Tie body width .184" (4.8mm)



TY5272MX
Tie body width .270" (7.6mm)

Dist. pk Cat. No.	Bulk Pkg Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max Wire Bundle Dia. (in.)	Max Wire Bundle Dia. (mm)	Military Standard Part No.	Tensile Strength (lbs.)	Tensile Strength (N)	Dist. Pack	Bulk Pkg. Quan.
TY523MX	TY23MX	.091	2.40	3.62	91.9	.625	15.8	MS3367-4	18	80	100	1000
TY52315MX	TY2315MX	.091	2.40	7.00	177.8	1.500	38.1	—	18	80	100	1000
TY5232MX	TY232MX	.091	2.40	8.00	203.2	2. 000	50.8	—	18	80	100	1000
TY5234MX	TY234MX	.091	2.40	14.00	355.6	4.000	101.6	—	18	80	100	1000
TY524MX	TY24MX	.140	3.60	5.50	139.7	1.125	28.5	MS3367-5	40	178	100	1000
TY5242MX	TY242MX	.140	3.60	8.19	208.0	2.000	50.8	—	40	178	100	1000
TY526MX	TY26MX	.140	3.60	11 10	281.9	3.000	76.2	—	40	178	100	1000
TY5244MX	TY244MX	.140	3.60	14.50	368.3	4.000	101.6	—	40	178	100	1000
TY525MX	TY25MX	.184	4.80	7.31	185.6	1 750	44.4	MS3367-1	50	222	100	1000
TY5253MX	TY253MX	.184	4.80	11.40	289.5	3.000	76.2	MS3367-7	50	222	100	1000
TY528MX	TY28MX	.184	4.80	14.20	360.6	4.000	101.6	MS3367-2	50	222	100	1000
TY5272MX	TY272MX	.270	7.60	8.00	203.2	2.000	50.8	—	120	534	50	500
TY527MX	*TY27MX	.270	7.60	13.40	340.3	3.500	88.9	MS3367-3	120	534	50	500
TY5275MX	TY275MX	.270	7.60	18.00	457.2	5.000	127.0	—	120	534	50	500
TY5277MX	TY277MX	.270	7.60	24.30	617.2	7.000	177.8	—	120	534	50	500
TY529MX	*TY29MX	.301	7.60	30.00	762.0	9.000	228.6	MS3367-6	120	534	50	500
TY53510MX	TY3510MX	.320	8.13	35.00	889.0	10.000	254.0	—	175	778	25	—
TY54513MX	TY4513MX	.320	8.13	45.00	1143.0	13.000	330.2	—	175	778	25	—

** For military compliance of weather resistant black 120 lbs. (534 N) ties, replace suffix X with O (ie. TY27M-0)*

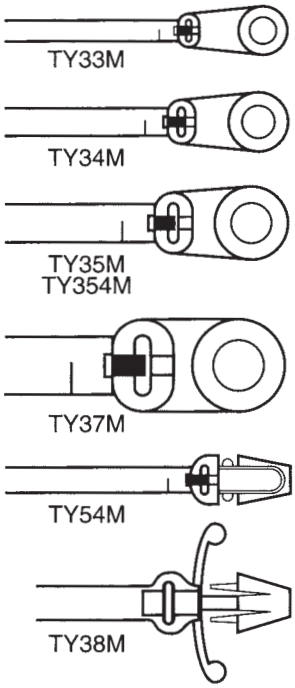
ULTRAVIOLET RESISTANT

The MX series cable ties are recommended for outdoor use. The addition of carbon black provides good ultraviolet resistance and prolongs life of the cable tie.

TY-RAP® cable straps and clamps

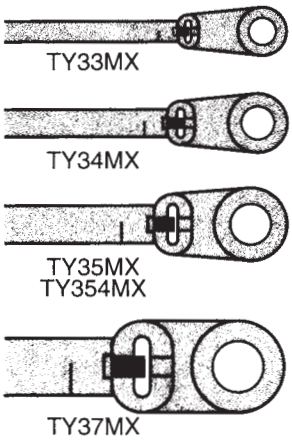
Std. Pkg. Cat. No.	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max Wire Bundle Dia. (in.)	Max Wire Bundle Dia. (mm)	mounting Hole	Mounting Hole (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Std Pkg Qty.	Bulk Pkg. Qty.
TY533M	TY33M	.091	2.40	4.00	101.6	.625	15.8	#4	2.9	18	80	100	1000
TY534M	TY34M	.140	3.60	6.00	152.4	1.125	28.5	#8	4.2	40	178	100	1000
TY535M	TY35M	.184	4.80	7.80	198.1	1.750	44.4	#10	4.9	50	222	100	1000
TY5354M	TY354M	.184	4.80	14.60	370.8	4.000	101.6	#10	4.9	50	222	100	1000
TY537M	TY37M	.301	7.60	13.90	353.0	3.500	88.9	¼	6.3	120	534	50	500
TY554M	TY54M	.140	3.60	5.96	151.3	1.125	28.5	3/16	4.7	40	178	100	1000
TY538M	TY38M	.184	4.80	7.80	198.1	1.750	44.4	¼	6.3	50	222	100	1000

Cable ties made from natural nylon 6/6 are excellent performers in most applications. Nylon 6/6 is recommended for use in temperatures ranging from 185°F to -40°F (85°C to -40°C).



Nylon 6/6 weather resistant

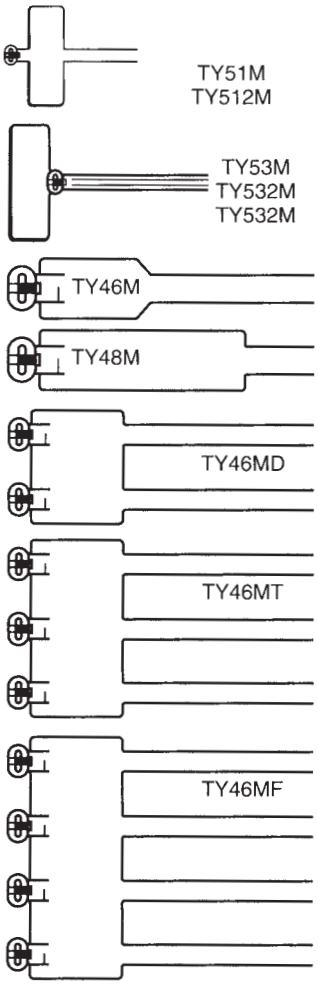
Std. Pkg. Cat. No.	Bulk Kg. Cat. No.	Body Width (in.)	Body Width (m m)	Length (in.)	Length (mm)	Maximum Wire Bundle Dia. (in.)	Maximum Wire Bundle Dia. (mm)	Mounting Hole	Mounting Hole (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Std Pkg Qty	Bulk Pkg. Qty.
TY533MX	TY33MX	.091	2.40	4.00	101.6	.625	15.8	#4	2.9	18	80	100	1000
TY534MX	TY34MX	.140	3.60	6.00	152.4	1.125	28.5	#8	4.2	40	178	100	1000
TY535MX	TY35MX	.184	4.80	7.80	198.1	1.750	44.4	#10	4.9	50	222	100	1000
TY5354MX	TY354MX	.184	4.80	14.60	390.8	4.000	101.6	#10	4.9	50	222	100	1000
TY537MX	TY37MX	.301	7.60	13.90	353.0	3.500	88.9	¼	6.3	120	534	50	500



The MX series cable ties are recommended for outdoor use. The addition of carbon black provides good ultraviolet resistance and prolongs life of the cable tie.

Ty-Rap®

Cable Ties

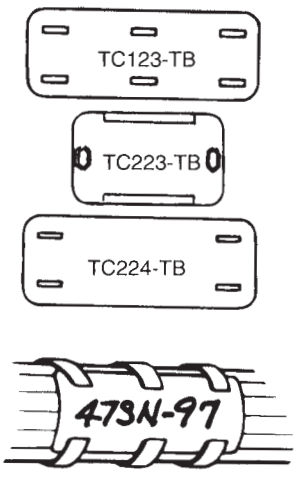


TY-RAP® identification cable ties

Std. Pkg. Cat. No.	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia (mm)	Military Standard Pad No.	Marking Pad Size W x H (in.)	Tensile Strength (lbs.)	Tensile Strength (N)	Std Pkg Qty.	Bulk Pkg. Qty.
TY551M	**TY51M**	.091	2.40	3.60	91.4	.625	15.8	MS3368-5	1 x .313	18	80	50	500
TY5512M	**TY512M**	.091	2.40	8.30	210.8	2	50.8	-	1 x .313	18	80	100	1000
TY553M	**TY53M**	.091	2.40	4.00	101.6	.625	15.8	-	.813 x 359	18	80	50	500
TY5532M	**TY532M**	.091	2.40	8.40	213.3	2	50.8	-	.813 x .359	18	80	100	1000
TY546M	**TY46M**	.184	4.80	7.25	184.1	1.75	44.4	MS3368-1	5 x .875	50	222	100	1000
TY548M	**TY48M**	.184	4.80	14.2	360.6	4	101.6	MS3368-2	5 x 2.125	50	222	100	1000
TY546MD	**TY46MD**	.184	4.80	7.25	184 1	1.75	44.4	MS3368-3	1.172 x 1	50	222	50	500
TY546MT	**TY46MT**	.184	4.80	7.25	184.	11.75	44.4	MS3368-4	1.210 x 1	50	222	100	500
—	**TY46MF**	.184	4.80	7.25	184.	11.75	44.4	-	2.48 x 1	50	222	—	500

Self-locking TY RAP identification ties are available in both single and multiple configurations. They may be marked with the special Thomas & Betts black or red marking pen which produces a permanent legend, or they can be heat stamped. Because the ties serve the dual purpose of tying and identifying, you will achieve extra economies. They can be applied with the standard TY-RAP tying tools used for regular ties.

Identification plates



Cat. No.	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Thickness (in.)	Thickness (mm)	Maximum Cable Tie Width (in.)	Maximum Cable Tie Width (mm)	Pkg. Qty.
TC123-TB	.75	19.0	1.25	31.7	.010	.254	.190	4.82	1000
TC124-TB	.75	19.0	1.50	38.1	.010	.254	.190	4.82	1000
TC125-TB	.75	19.0	1.75	44.4	.010	.254	.190	4.82	1000
TC126-TB	.75	19.0	2.00	50.8	.010	.254	.190	4.82	1000
TC128-TB	.75	19.0	2.50	63.5	.010	.254	.190	4.82	1000
TC223-TB	.75	19.0	1.28	32.5	.015	.381	.190	4.82	1000
TC224-TB	.75	19.0	1.28	32.5	.015	.381	.190	4.82	1000
TC225-TB	.75	19.0	1.75	44.4	.015	.381	.190	4.82	1000
TC226-TB	.75	19.0	2.00	50.8	.015	.381	.190	4.82	1000
TC228-TB	.75	19.0	2.50	63.5	.015	.381	.190	4.82	1000

Ranging in length from 1¼" (31. 7mm) to 2½" (63.5mm), the identification plates are secured to the cable with TY-RAP ties. They are composed of .010" (.254mm) - and .015" (.381 mm) - thick nylon, and have a surface which can be marked easily.

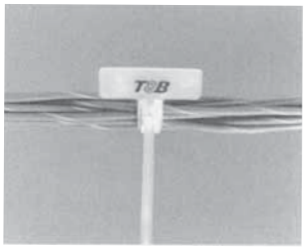
TY-RAP® marking pens

Cat. No.	Color Ink	Std. Pkg.
WT163M-1	Black	1
WT163M-3	Red	1

Snap-On Identification Marker Tag

Cat. No.	Bulk Pkg. Cat. No.	Description	Marking Pad Size (in.) WxH	Std. Pkg.	Bulk Pkg. Quan.
TC523	TC23	Snaps onto the heads of all miniature 18 lbs. (80 N) series cable ties	1" x .35" 25.4 x 8.9mm	100	1000
TC524	TC24	Snaps on to the heads of all intermediate 30 & 40 lbs. (133 N & 178 N) Series cable ties	1" x .50" 25.4 x 12.7mm	100	1000
TC525	TC25	Snaps onto the heads of all standard 50 lbs. (222 N) series cable ties	1" x .50" 25.4 x 12.7mm	100	1000

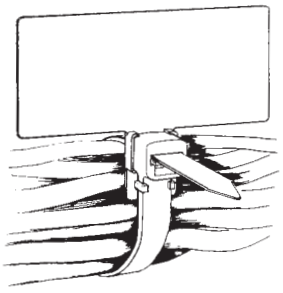
Note. Made of natural nylon 6/6.



Snaps on to the head of a conventional cable tie to convert it to an identification tie.

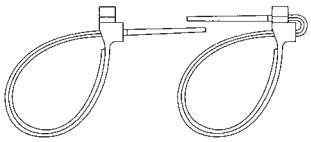
Features of Snap-On Tag

- *Simply snaps onto the head of a conventional cable tie to convert it to an identification tie*
- *When snapped onto the tie head, the tag is conveniently held in place until it is permanently fastened*
- *Offers maximized inventory control because the I.D tag will accommodate different tie lengths and materials*
- *Allows marking and bundling to be done in one operation*
- *The marking can be made with a Thomas & Betts permanent marking pen (black or red); catalogue numbers: WT163M-1 (black), WT1 63M-3 (red)*
- *The patented identification tags are sold separately and can be conveniently snapped on the cable ties at the assembly location just before being installed on the bundle*



Ty-Rap®

Cable Ties



Reusable TY-RAP® cable ties

Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk. Qty.
TYR505	.184	4.80	7.50	190.5	1.75	44.4	50	222	100	500
TYR508	.184	4.80	14.30	363.2	4.00	101.6	50	222	100	500

Cable ties made from natural nylon 6/6 are excellent performers in most applications. Nylon 6/6 is recommended for use in temperatures ranging from 185°F to -40°F (85°C to —40°C).

PLUG-TY™ cable tie for masonry surfaces

Cat. No.	Body Width (in.)	Body Width (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Masonry Hole Size (in.)	Masonry Dia .Hole Size (mm)	Pullout Force (lbs.)	Pullout Force (N)	Unit Qty.	Bulk. Qty.
TY544MX	.184	4.80	1.75	44.4	¼	6.3	25	111	50	250

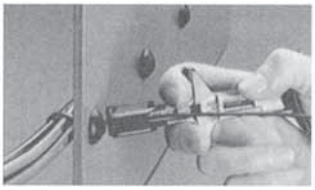
This TY-RAP brand cable tie lets you secure wire bundles up to 1¾ (44.4mm) inches in diameter to all masonry surfaces. It is equipped with a masonry plug which is driven into the drilled hole. Once installed, the tail is looped through the head to provide a neat, safe, low-profile installation. It is made of black, weather-resistant nylon.

DRIVE-TY™ cable tie

Cat. No.	Body Width (in.)	Body Width (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Pullout Force (lbs.)	Pullout Force (N)	Unit Qty.	Bulk. Qty.
TY545MX	.184	4.80	1.5	38.1	50	222	50	500

U.S. Pat. Des. 280,794

The DRIVE- TY cable tie gives you a fast, safe means of securing cables to wood surfaces.



Universal clamp

Cat. No.	Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Hole Size (in.)	Hole Size (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk. Qty.
TY541M	TY41M	.225	5.71	9.60	243.8	2.37	60.2	.32-.68	8.12-11.27	65	289	50	1000

Note. Loop tie through hole in frame around electrical, hydraulic, or air hoses to be clamped, and through head. Tighten and cut off with WT2 or WT197 tool. Visually looks like a rivet.

- *One-piece design, fast and convenient to use*
- *Lowers your installed cost*
- *Clamping range of 1/16~ to 2 3/8 inches (1. 5mm to 60.2mm) reduces your inventory-one clamp replaces many*
- *Visually attractive head resembles rivet*
- *Locking grooves maintain tight grip*

Ty-Rap®

Cable Ties for Special Applications

Natural nylon cable ties are excellent performers in most applications. However, to answer your cable tying needs in more severe environments, Thomas & Betts also offers ties in a variety of special materials. These materials, which are available to meet your specific performance requirements, are displayed on the facing page and include our stainless steel ties. The ties are available in a range of lengths and tensile strength ratings. Typical harsh applications might include resistance to chemicals or radiation, extremely low or high temperatures, flammability, etc. By matching the appropriate material to your application, you are assured of the highest quality and dependability, at the lowest cost. For example, if your application is in an extremely cold environment, three materials will answer your need: Tefzel*, Nylon 12 and stainless steel. If you also require high tensile strength, then stainless steel is your best choice. Where high strength is not required, Nylon 12 might be your choice as it is the least costly. Whatever your application, Thomas & Betts has the tie for your needs.

This information is based on data provided by the manufacturers of the specific materials listed and is provided only as a general guide. No specific recommendation is intended. As each application may vary, testing should be conducted by the user in the intended environment. For more information contact your nearest sales office.

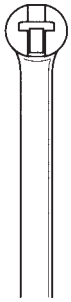
Available Materials 5 = Most Suitable 1 = Least Suitable

Environment	Standard Nylon TY– Series	Weather Resistant Nylon TY–X Series	Fire Retardant Nylon TY–FR Series	Weather Resistant Nylon 12 TYC–X Series	Polypropylene TYP– Series	Weather Resistant Polypropylene TYP–X Series	Tefzel* TYZ– Series	Stainless Steel TYS– Series
Ultraviolet Resistance	1	4	1	4	1	4	5	5
Radiation	1	1	1	1	1	1	4	5
Low Temperature	3	3	2	4	3	3	4	5
High Temperature	3	3	3	2	2	2	4	5
Flammability	3	3	4	1	1	1	4	5
Chemical Resistance,	Contact Thomas & Betts sales office for resistance to specific chemicals							

** Registered DuPont Trademark*

Flame Retardant ties

Distributor Pks	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Marking Pad Size (in.) WxH	Marking Pad Size (mm) WxH	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg. Qty.	Bulk Pkg Qty.
TY523MFR	TY23MFR	.091	2.40	3.62	91.9	.625	15.8	—	—	18	80	100	1000
TY524MFR	TY24MFR	.140	3.60	5.50	139.7	1.125	28.5	—	—	40	178	100	1000
TY525MFR	TY25MFR	.184	4.80	7.31	185.6	1.75	44.4	—	—	50	222	100	1000
TY528MFR	TY28MFR	.184	4.80	14.20	360.6	4.00	101.6	—	—	50	222	100	1000
TY5272MFR	TY272MFR	.301	7.60	8.00	203.2	2.00	50.8	—	—	120	534	50	500
TY527MFR	TY27MFR	.301	7.60	13.20	335.2	3.50	88.9	—	—	120	534	50	500
TY553MFR	TY53MFR	.091	2.40	4.00	101.6	.625	15.8	.813 x .359	20.6 x 9.1	18	80	50	500



This material meets U. L. 94 V-0 flammability rating.

Nylon 12 ties ~ Excellent Corrosion Resistance

Distributor Pks	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	length (in.)	length (m m)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (m m)	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg. Qty.	Bulk Pkg Qty
TYC525MX	TYC25MX	.184	4.80	7.31	185.6	1.75	44.4	35	156	100	1000
TYC528MX	TYC28MX	.184	4.80	14.20	360.6	4.00	101.6	35	156	100	1000
TYC5272MX	TYC272MX	.270	7.60	8.00	203.2	2.00	50.8	85	378	50	500
TYC527MX	TYC27MX	.270	7.60	13.20	335.2	3.50	88.9	85	378	50	500

This material provides very good resistance to ultraviolet light and chemical exposure. Nylon 12 is a lower, moisture absorbing material than 6/6 nylon and the effect of water on properties is much less.

Ty-Rap®

Cable Ties for Special Applications

Heat-stabilized ties

Distributor Pkg Cat.No	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg. Qty.	Bulk Pkg Qty
TYH524M	TYH24M	.140	3.60	5.50	139.9	1.125	28.5	30	133	100	1000
TYH525M	TYH25M	.184	4.80	7.31	185.6	1.75	44.4	50	222	100	1000
TYH528M	TYH28M	.184	4.80	14.20	360.6	4.00	101.6	50	222	100	1000
TYH527M	TYH27M	.270	7.60	13.20	335.2	3.50	88.9	120	534	50	500

Heat-stabilized ties are recommended for higher continuous temperature use (221 °F/105°C). Material meets ASTM D4066 PA 121.

Weather-resistant polypropylene ties

Distributor Pks	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg. Qty.	Bulk pkg Qty.
TYP525MX	TYP25MX	.184	4.8	7.31	185.6	1.75	44.4	30	133	100	1000
TYP528MX	TYP28MX	.184	4.8	14.20	360.6	4.00	101.6	30	133	100	1000
TYP527MX	TYP27MX	.270	7.6	13.20	335.2	3.50	88.9	60	267	50	500

Polypropylene cable ties are ideally suited to chemical environments

Halar™* cable ties for plenums

Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg Qty.	Bulk Pkg. Qty.
TYV523M	.091	2.40	3.62	91.9	.625	15.8	18	80	100	1000
TYV525M	.184	4.80	7.31	185.6	1.750	44.4	50	222	100	1000

** Trademark Allied Fiber and Plastic.*

Designed for use in ducts, plenums and other air handling places. Due to its UL94V-0 flammability rating and low smoke density characteristics, Halar material is most suitable in applications where flame resistance and smoke generation is a concern.

TEFZEL* cable ties

Cat. No.	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max Wire Bundle Dia. (in.)	Max Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Dist Pkg Qty	Bulk Pkg. Qty.
TYZ523M	TYZ23M	.091	2.40	3.62	91.9	.625	15.8	18	80	100	1000
TYZ525M	TYZ25M	.184	4.80	7.31	185.6	1.750	44.4	50	222	100	1000
TYZ528M	TYZ28M	.184	4.80	14.19	360.4	4.000	101.6	50	222	100	1000
TYZ527M	TYZ27M	.301	7.60	13.38	339.8	3.500	88.9	120	534	50	500

** DuPont registered trademark.*

Tefzel cable ties offer high radiation resistance and temperature stability to 302°F (150°C). Also, Tefzel provides excellent resistance to ultra violet light and meets U.L Flammability rating 94V-0

Ty-Rap®

Releasable Ties

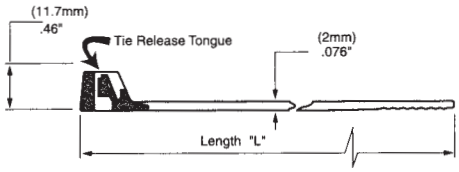
Releasable Cable Ties

Cat. No.	Material	Colour	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Dia. (in.)	Dia. (mm)	Tensile (lbs.)	Tensile (kg)	Std Pkg
P-5-50R-0-C	Nylon	Black	.298	7.5	5.9	150	⅛ -1¼	3 - 32	50	22.7	100
P-5-50R-0-D	Nylon	Black	.298	7.5	5.9	150	⅛ -1¼	3 - 32	50	22.7	500
P-5-50R-9-C	Nylon	Natural	.298	7.5	5.9	150	⅛ -1¼	3 - 32	50	22.7	100
P-5-50R-9-D	Nylon	Natural	.298	7.5	5.9	150	⅛ -1¼	3 - 32	50	22.7	500
P-8-50R-0-C	Nylon	Black	.298	7.5	7.8	198	⅛ -2	3 - 51	50	22.7	100
P-8-50R-0-D	Nylon	Black	.298	7.5	7.8	198	⅛ -2	3 - 51	50	22.7	500
P-8-50R-9-C	Nylon	Natural	.298	7.5	7.8	198	⅛ -2	3 - 51	50	22.7	100
P-8-50R-9-D	Nylon	Natural	.298	7.5	7.8	198	⅛ -2	3 - 51	50	22.7	500
P-10-50R-0-C	Nylon	Black	.298	7.5	11.75	298	⅛ -3	3 - 76	50	22.7	100
P-10-50R-0-D	Nylon	Black	.298	7.5	11.75	298	⅛ -3	3 - 76	50	22.7	500
P-10-50R-9-C	Nylon	Natural	.298	7.5	11.75	298	⅛ -3	3 - 76	50	22.7	100
P-10-50R-9-D	Nylon	Natural	.298	7.5	11.75	298	⅛ -3	3 - 76	50	22.7	500

Push button release.

Releasable - Heavy Duty Ties

Std Pkg. Cat. No.	Body Width (mm)	Length (mm)	Max. Wire Bundle Dia. (mm)	Pullout Force (N)	Std Pkg
TYL300M	12.7	300	15 - 75	1125	50
TYL546M	12.7	546	15 - 140	1125	50
TYL300MX	12.7	300	15 - 75	1125	50
TYL546MX	12.7	546	15 - 140	1125	50
TYL1000MX	12.7	1000	15 - 300	1125	100



INSTALLING CABLE TIES: Slip TY-RAP Cable Tie around bundle and insert tail through head. Pull hand tight. RELEASE CABLE TIES: Press Releasing Tongue and withdraw strap. Minimum tensile unlocking strength: 115kg. Temperature Range: -40°C to +85°C.

Duct Ties - Extra Long Cable Ties

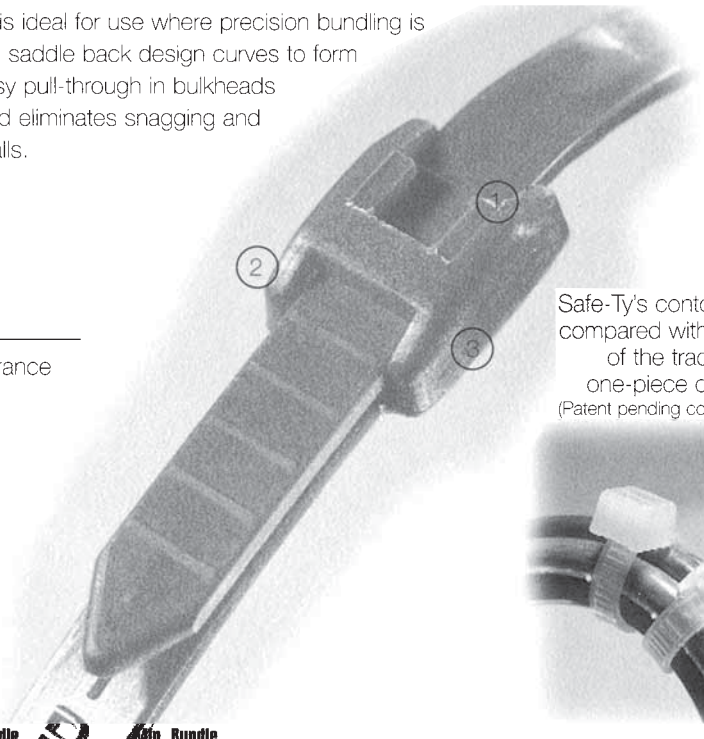
Cat. No.	Description.	Body Width (mm)	Overall Length (mm)	Max. Wire Bundle Dia. (mm)	Tensile Strength (N)	Std. Pkg.
L-36-175-9-L	Nat	8.77	914	279	778	50
L-36-175-0-L	U.V Black	8.77	914	279	778	50
L-48-175--8-L	Grey	8.77	1219	381	778	50
L-48-175-0-L	U.V Black	8.77	1219	381	778	50

Ty-Rap®

Safe-Ty Low Profile In-Line Fasteners

Low Profile In-Line Fasteners

This new Safe-Ty design from Thomas & Betts is ideal for use where precision bundling is required and clearance is a necessity. A unique saddle back design curves to form a snug fit around the bundle, and allows for easy pull-through in bulkheads and any other tight spaces. Our contoured head eliminates snagging and sharp edges are reduced by our safe-guard walls.



Safe-Ty's contoured head compared with the profile of the traditional one-piece cable tie.
(Patent pending contoured head)

Features

1. Low-Profile, contoured head reduces clearance required for the bundle and enhances the appearance of your harness.
2. The safe-guard wall eliminates exposure to sharp edges.
3. The saddle back fits snug against the contour of the wiring harness.
4. Sizes and colours available to accommodate varying requirements.
5. High-quality nylon strength.

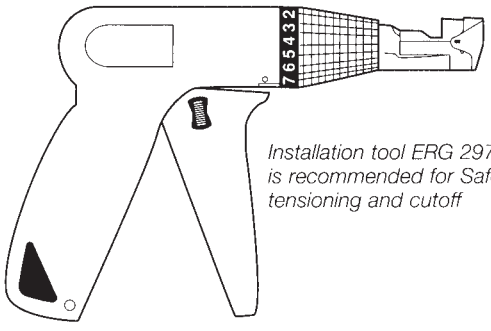
Catalogue No.	Min. Tensile Strength	Max. Bundle Diameter	Min. Bundle Diameter	Tie Length	Width	Standard Pack (pieces)
SF100-18	8.2 kgs	25.4mm	3.0mm	118mm	2.4mm	1000
SF100-18X	8.2 kgs	25.4mm	3.0mm	118mm	2.4mm	1000
SF175-50	22.7 kgs	44.4mm	4.8mm	195mm	4.8mm	1000
SF175-50X	22.7 kgs	44.4mm	4.8mm	195mm	4.8mm	1000
SF300-50	22.7 kgs	76.2mm	4.8mm	288mm	4.8mm	1000
SF300-50X	22.7 kgs	76.2mm	4.8mm	288mm	4.8mm	1000
SF400-50	22.7 kgs	101.6mm	4.8mm	369mm	4.8mm	1000
SF400-50X	22.7 kgs	101.6mm	4.8mm	369mm	4.8mm	1000
SF400-120	54.4 kgs	101.6mm	9.5mm	370mm	7.6mm	500
SF400-120X	54.4 kgs	101.6mm	9.5mm	370mm	7.6mm	500
SF600-120	54.4 kgs	152.4mm	9.5mm	533mm	7.6mm	500
SF600-120X	54.4 kgs	152.4mm	9.5mm	533mm	7.6mm	500
ERG297	Application tool for 22.7kg to 54.4kg tensile strength					
ERG299	Application tool for 8.2kg to 22.7kg tensile strength					

Material: Natural Nylon 6/6 (X suffix is weatherable black nylon)
For 100 packs add suffix -100 eg: SF175-50X-100

How to order coloured Safe-Ty in-line fasteners.

Natural nylon is standard. For coloured Safe-Ty in-line fasteners add the following suffix numbers to catalogue numbers.
Example: **SF175-50-2 (red).** Coloured ties are not U.V stabilised.

Colour	Suffix No.
Black (outdoor)	X
Brown	1
Red	2
Orange	3
Yellow	4
Green	5
Blue	6
Purple	7
Grey	8
White	9



Installation tool ERG 297/299 is recommended for Safe-Ty tensioning and cutoff

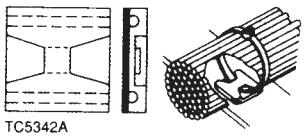
Thomas&Betts

TY-RAP® Mounting bases

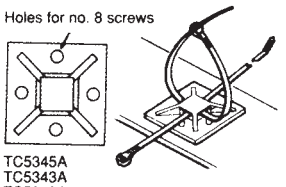
(adhesive backed, epoxy or screws)

Cat. No.	Bulk Pkg. Cat. No.	Mounting Method	Max. Tie Width Accom (in).	Max. Tie Width Accom(mm)	Length (in.)	Length (mm)	Width (in.)	Width (mm)	Unit Material	Std Qty.	Bulk Qty.
TC5342A	TC342A	Adhesive	.190	4.83	1.125	31.8	1.125	31.8	Nylon 6/6	100	1000
—	TC342A-X	Adhesive	.190	4.83	1.125	31.8	1.125	31.8	Wthrble nylon	—	1000
—	TC342	TC2PA	.190	4.83	1.125	31.8	1.125	31.8	Nylon 6/6	—	1000
—	TC342X	TC2PA	.190	4.83	1.125	31.8	1.125	31.8	Wthrble nylon	—	1000
TC5345A	TC345A	Adhesive	.190	4.83	1.125	31.8	1.125	31.8	Nylon 6/6	100	1000
—	TC345AFR	Adhesive	.190	4.83	1.125	31.8	1.125	31.8	Flme-retard	—	1000
—	TC345AX	Adhesive	.190	4.83	1.125	31.8	1.125	31.8	Wthrble nylon	—	1000
—	TC345	TC2PA	.190	4.83	1.125	31 8	1.125	31.8	Nylon 6/6	—	1000
TC5344A	TC344A	Adhesive	.140	3.56	.750	19.0	.750	19.0	Nylon 6/6	100	1000
—	TC344AX	Adhesive	.140	3.56	.750	19.0	.750	19.0	Wthrble Nylon	—	1000
TC5353A	TC353A	Adhesive	.190	4.83	2.000	50.8	1.000	25.4	Nylon 6/6	25	500
—	TC353	TC2PA	.190	4.83	2.000	50.8	1.000	25.4	Nylon 6/6	—	500
TC5347A	TC347A	Adhesive	.301	7.65	1.125	31.8	1.125	31.8	Nylon 6/6	100	1000
—	TC347	TC2PA	.301	7.65	1.125	31.8	1.125	31.8	Nylon 6/6	—	1000
—	TC347FR	TC2PA	.301	7.65	1.125	31.8	1.125	31.8	Flme-retard	—	1000
—	TC347X	TC2PA	.301	7.65	1.125	31.8	1.125	31.8	Wthrble nylon	—	1000
—	TCZ347	TC2PA	.301	7.65	1.125	31.8	1.125	31.8	Tefzel	—	1000
—	TC817-TB	TC2PA	.190	4.83	.437	11.1	.437	11.1	Nylon 6/6	—	1000
—	TC105	TC2PA	.190	4.83	1.000	25.4	.500	12.7	Aluminum	—	1000
—	TC824-TB	TC2PA	.190	4.83	1.375	34.9	.375	9.5	Aluminum	—	1000
TC5343A	TC343A	Adhesive	.091	2.40	0.5	12.7	0.5	12.7	Nylon 6/6	100	1000
TC5345A	TC346A	Adhesive	.190	4.83	1.5	38.1	1.5	38.1	Nylon 6/6	100	1000
TC5348A	TC348A	Adhesive	.190	4.83	2.0	50.8	2.0	50.8	Nylon 6/6	100	1000

Note. For adhesive back bases temperature rating is -O°F to + 120°F (- 18°C to +50°C).



TC5342A



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TC5343A
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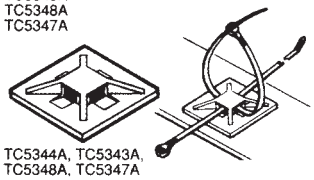
TC5347A



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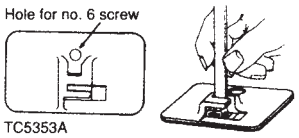

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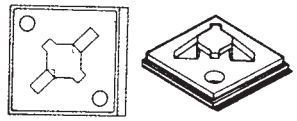
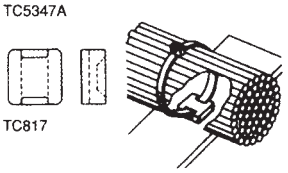
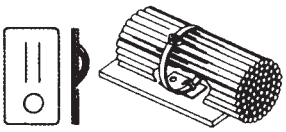


TC5347A



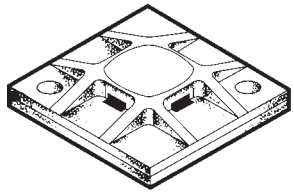
TC817



TC105

1"(25mm) x 1"(25mm) Mounting base

Item Number	Std pack	Per Material	Mount Method	H Height inch (mm)	L Length inch (mm)	W Width inch (mm)	S Slot Height inch (mm)	S Slot Width inch (mm)
MPNY-1000-0-C	100		Black Nylon					
MPNY-1000-0-D	500		Synthetic					
MPNY-1000-9-C	100	Natural Nylon	Polymer					
MPNY-1000-9-D	500							
MPNY-1000A-0-C	100	Black Nylon						
MPNY-1000A-0-D	500		Acrylic	.215 (5.46)	1.000 (25.40)	1.000 (25.40)	.070 (1.78)	.203 (5.16)
MPNY-1000A-9-C	100	Natural Nylon	Adhesive					
MPNY-1000A-9-D	500							
MPNY-1000S-0-C	100	Black Nylon						
MPNY-1000S-0-D	500		#6 screw		For use with 18-50 lb. Cable Ties			
MPNY-1000S-9-C	100	Natural Nylon						
MPNY-1000S-9-D	500							
Tolerance ±				.010 (.254)	.015 (.381)		.010 (.254)	



- *Mounting surface should be cleaned with alcohol based (IPA) cleaner before application.*
- *Rubber based adhesive provides instant adhesion. Acrylic based may be repositioned initially. Allow 24-72 hours set-up for maximum performance with acrylic based adhesives.*

Mounting base adhesive

Cat. No.	Description	Unit Qty.	Std. Pkg.
TC2PA	Consists of one tube of adhesive and one tube of activator	1	10

Ty-Rap®

Cable Tie Mounting Bases for Heavy-Duty Applications

TY-RAP® mounting base for lashing tie

Cat No.	Mounting Method	Max. Tie Width Accom (in.)	Max. Tie Width Accom (mm)	Width (in.)	Width (mm)	length (in.)	length (mm)	Std. Qty.
TC5355	#8 screw	.500	12.7	.750	19.0	1.125	31.7	25
TC5356	#10 screw	.500	12.7	.750	19.0	1.125	31.7	25
TC5357	¼ screw	.500	12.7	.750	19.0	1.125	31.7	25

Weather-resistant nylon mounting base for use with lashing tie Cat. No. TY5409 is. 500" wide (12.7mm).

Only two sizes to stock — reduces inventory
The new base features a specially designed head which is range-taking. Just two sizes can accommodate virtually all of your cable-to-masonry clamping needs

TY-RAP® mounting base for masonry and brick surfaces

Cat No.	Hole Size in Masonry	Maximum Tie Width Accom. (in.)	Maximum Tie Width. Accom. (mm)	Std Qty.
TC5358	¼	.190	4.83	100
TC5359	⅜	.500	12.7	50

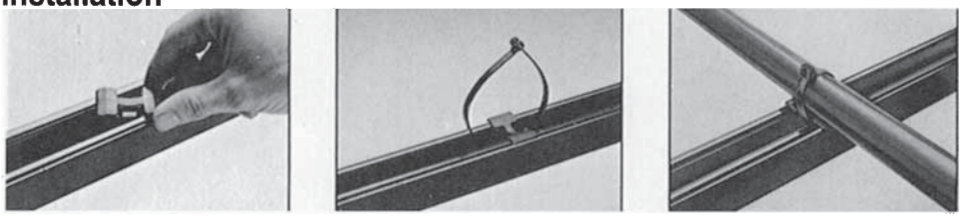
- *Quick, easy installation without adhesives or epoxies*
- *Provides a quick, easy means of attaching cable and wires to masonry surfaces*
- *Installs simply by tapping it into a drilled hole*
- *It's immediately ready to accept a cable tie and wire bundle, no tedious surface preparation, no waiting for adhesives to set*
- *Provides quick, dependable mechanical installation*
- *Replaces a variety of anchors, clamps, screws and adhesives*
- *Designed for both indoor and outdoor applications. Made of a special impact and ultraviolet resistant black nylon, the new base is designed for both indoor and outdoor use, in addition, shelf life is indefinite because it uses no adhesives.*

Framing channel clamp

Cat No.	Channel Size (in.)	Channel Size (mm)	Maximum Tie Width Accom. (in.)	Maximum Tie Width Accom. (mm)	Std Qty.
TC5363X	1.5 & 1.625	38.1 & 41.3	.301	7.65	50

Mounting bases for heavy duty applications are made from high impact weather resistant nylon.

Installation



- *Installs with a push and twist*
- *Smooth design protects cable insulation*
- *Designed for indoor or outdoor use*
- *Takes range of cable diameters*

When fastening wire bundles, cables, or hoses to framing channels, you can cut costs considerably by using the TY-RAP" cable clamp. It is made of smooth, weather-resistant nylon and designed to protect cable insulation and hoses from wear or damage as can occur with metal clamps. The clamp may be used for both indoor or outdoor applications. It installs in the framing channel with a simple push and twist. It requires no screws, nuts or tools. The clamp fits all 1½" (38. 1mm) and 1 ⅝" (41.3mm) channels regardless of channel depth.

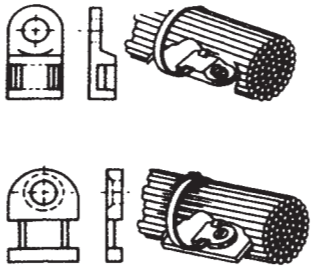
Ty-Rap®

Mechanically-Installed Mounting Bases

Miniature mounting bases

Cat. No.	Bulk Pkg. Cat. No.	Mounting Method	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Std Qty.	Bulk. Qty.
TC502	TC102	#8 screw	.190	4.83	.500	12.7	.750	19.0	100	1000
—	TC104	#5 screw	.091	2.32	.316	8.03	.406	10.3	—	1000
—	TC804	#2 screw	.091	2.32	.316	8.03	.406	10.3	—	1000
—	TC112-TB	#8 screw	.190	4.83	.375	9.5	.750	19.0	—	1000
—	TC812-TB	#10 screw	.190	4.83	.375	9.5	.750	19.0	—	1000
—	TC814-TB	#5 screw	.190	4.83	.375	9.5	.750	19.0	—	1000

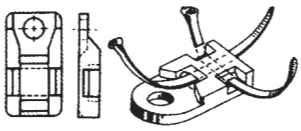
Threaded insert permits screw to come from outside of mounting surface.



Two-direction mounting base

Cat. No.	Bulk Pkg. Cat. No.	Mounting Method	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Unit Qty.	Bulk. Qty.
—	TC826-TB	#8 screw	.190	4.83	.500	12.7	1	25.4	—	1000
TC5828	TC828-TB	#8 screw	.190	4.83	.390	9.9	.875	22.2	100	1000

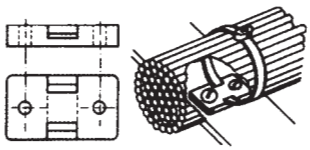
The TC826 mounting base can be used to tie bundles running parallel or perpendicular to length of base. The TC828 mounting plate also handles ties installed in either direction and is somewhat smaller than TC826.



In-line base

Cat. No.	Mounting Method	Maximum Tie Width Accom (in)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg. Qty.
TC815-TB	#10 screws	.301	7.65	.750	19.0	1.125	28.6	500

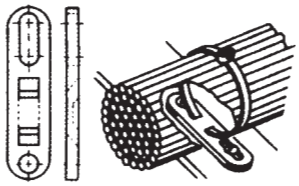
A standard two-hole base that installs in-line with the wire bundle which conceals it.



Single-bundle mounting base

Cat. No.	Bulk Pkg. Cat. No.	Mounting Method	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Unit Qty.	Bulk. Qty
—	TC101	#10 screws	.190	4.83	.500	12.7	2.00	50.8	—	1000
TC503	TC103	¼ screws	.301	7.65	.625	15.9	3.08	78.2	100	500

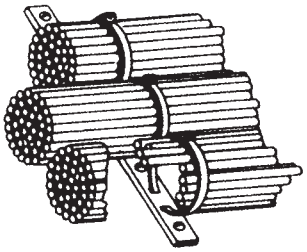
The TC101 and TC103 nylon bases provide a mounting range for bundles from 1/4" (6mm) through 4" (101mm) in diameter. One mounting hole is slotted to permit adjustment of the bundle position up to the time of actual bundle installation,



Ty-Rap®

Mechanically-installed Mounting Bases

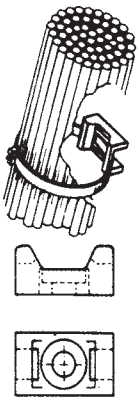
Multiple-bundle mounting strips



Cat. No.	Mounting Method	Maximum Tie Width Accom. (in.)	Maximum Tie Width Accom. (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Capacity (bundles)	Mil. Std. Part No.	Pkg. Qty.
TC1101	#6 screws	.190	4.83	.500	12.7	1.75	44.0	1	MS3339-1	100
TC1102	#6 screws	.190	4.83	.500	12.7	3.00	76.0	2	MS3339-2	100
TC1103	#6 screws	.190	4.83	.500	12.7	4.25	108.0	3	MS3339-3	100
TC1104	#6 screws	.190	4.83	.500	12.7	5.50	139.0	4	MS3339-4	100
TC1105	#6 screws	.190	4.83	.500	12 7	6.75	171.0	5	MS3339-5	100
TC1112	#6 screws	.301	7.65	.625	15.9	9.60	243.0	6	MS3339-11	100
TC1113	#6 screws	.301	7.65	.625	15.9	2.10	53.0	6	MS3339-6	100
TC1114	#6 screws	.301	7.65	.625	15.9	3.60	91.0	2	MS3339-7	100
TC1115	#6 screws	.301	7.65	.625	15.9	5.10	129.0	3	MS3339-8	100
TC1116	#6 screws	.301	7.65	.625	15.9	6.60	167.0	4	MS3339-9	100
TC1117	#6 screws	.301	7.65	.625	15.9	8.10	205.0	5	MS3339-10	100

These nylon mounting strips for parallel installation of wire bundles can accommodate up to six closely spaced bundles.

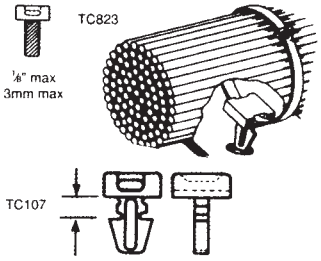
Saddle support base



Cat. No.	Bulk Pkg. Cat. No.	Mounting Method	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Unit Quan.	Bulk Pkg. Qty.
	TC140	#4 Pan head	—	—	—	—	—	—	—	500
TC5141	TC141	#6 Pan head	.190	4.83	.439	11.1	.672	17.0	100	500
TC5142	TC142	#10 Pan head	.301	7.65	.563	14.3	.922	23.0	100	500

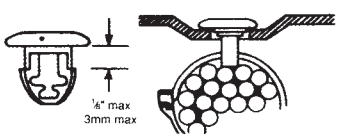
This mounting base provides a saddle for the wire run. TY RAP tie is threaded under bundle and tied in usual manner.
Note. For additional materials see Technical Services.

Push-in and bolted bases



Cat. No.	Bulk Pkg. Cat. No.	Maximum Mounting Hole Size	Maximum Tie Width Accom (in.)	Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Unit Quan.	Bulk Pkg. Qty.
TC5823	TC823-TB	¼	.190	4.83	.438	11.1	.625	16.0	100	1000
—	TC187	#10-32 thd	.190	4.83	.438	11.1	.688	17.0	—	1000

Snap-in mounting base cap

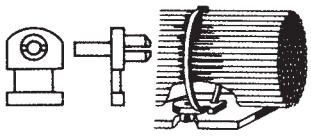


Cat. No.	Mounting Hole Size (in.)	Mounting Hole Size (mm)	Maximum Tie Width Accom (in)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Material	Pkg. Qty.
TC121-TB	.250	6.35	.190	4.83	.445	11.3	.415	10.6	Nylon 6/6	1000
TCH121	.250	6.35	.190	4.83	.445	11.3	.415	10.6	Nylon 6/6 heat stabilized	1000

Snap-in, premountable base for securing wire bundles in cabinets maintains the attractive external appearance of the equipment housing-TC121 Snap-Cap. U.S. Patent No. 3,621,751.

Self-riveting base

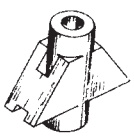
Cat. No.	Mounting Hole Size (in.)	Mounting Hole Size (mm)	Max. Tie Width Accom (in.)	Max. Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Material	Pkg. Qty.
TC116	.146	3.7	.190	4.83	.500	12.7	.750	19.0	Nylon 6/6 (Red)	1000
TC118	.169	4.3	.190	4.83	.500	12.7	.750	19.0	Nylon 6/6 (Blue)	1000
TC120	.196	5.0	.190	4.83	.500	12.7	.750	19.0	Nylon 6/6 (Yellow)	1000



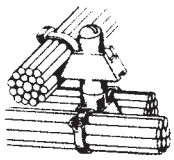
Knock-in mounting base TC116, TC118 and TC 120 firmly lock into position when projecting pin is knocked into hollow peg. Slip tie under base and tie as usual.

TY-RAP® mounting blocks

Cat. No.	Mounting Bolt Size	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg. Qty.
TC115	#10	.190	4.83	.469	11.9	1.00	25.4	1000



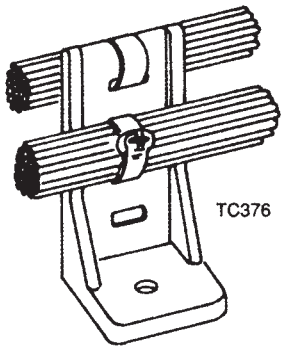
TC115



Mounting blocks permit vertical stacking and can be used in any direction.

TY-RAP® stand-off brackets

Cat. No.	Maximum Tie Width Accom. (in.)	Maximum Tie Width Accom. (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg. Qty.
TC375	.190	4.83	.750	19.0	3.65	92.0	100
TC376	.190	4.83	.670	17.0	1.75	44.0	100

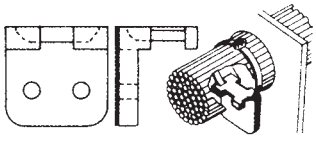


TC376

These brackets permit bundles to be mounted on either side. They also serve as means to raise bundles off the surface.

Right-angle bundle support

Cat. No.	Maximum Tie Width Accom. (in.)	Maximum Tie Width Accom. (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg. Qty.
TC109	.190	4.83	.563	14.3	.438	11.1	200
TC106	301	7.65	1.000	25.4	1 .000	25.4	1000

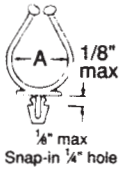


This style meets Military Specification requirements as a support at holes in bulkheads and walls.

Ty-Rap®

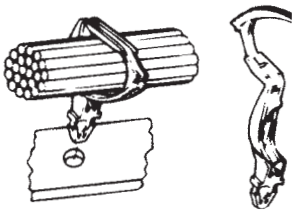
Adhesive and Mechanical-Locking Routing Clamps

Mechanical-locking routing clamps



Bulk Pkg. Cat. No.	Mounting Hole Size (in.)	Mounting Hole Size (mm)	Maximum Wire Bundle Dia. (in.)	Maximum Wire Bundle Dia. (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg Qty
TC88	.250	6.35	.500	12.7	.250	6.35	.891	22.6	100
TC95	.250	6.35	1.000	25.4	.500	12.7	1.59	40.4	100

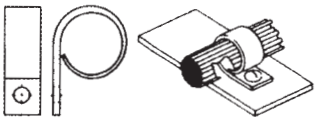
The locking clamp is available in several mounting styles, as shown. This clamp acts as a retainer during wire routing and as a positive clamp when desired. Anti-rotational peg is available.



Harness clips

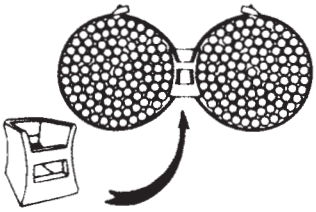
Cat. No.	Mounting Hole Size (in.)	Mounting Hole Size (mm)	Maximum Wire Bundle Dia. (in.)	Maximum Wire Bundle Dia. (mm)	Pkg. Qty.
HCP438	1/4	6.35	.375	9.53	1000

U.S. Patent No. 3,875,619



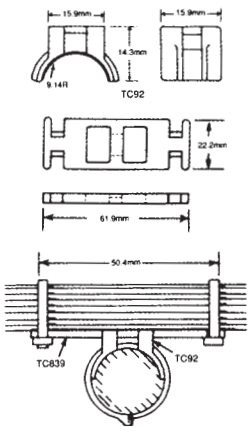
Bundle-retaining clamp

Bulk Pkg. Cat. No.	Mounting Method	Maximum Wire Bundle Diameter (in.)	Maximum Wire Bundle Diameter (mm)	Width (in.)	Width (mm)	Pkg. Qty.
TC70	#10 screw	.250	6.35	.400	10.2	100
TC71	#10 screw	.500	12.7	.400	10.2	100
TC72	#10 screw	.750	19.0	.500	12.7	100
TC73	#10 screw	1.000	25.4	.500	12.7	100
TC74	#10 screw	1.500	38.1	.500	12.7	100



Wire-bundle spacer

Bulk Pkg. Cat. No.	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Unit Qty.	Pkg. Qty.
TC5339	.190	4.83	.266	6.76	.500	12.7	100	500



Saddle-mounting bracket assembly

Bulk Pkg. Cat. No.	Fastener	Maximum Tie Width Accom (in.)	Maximum Tie Width Accom (mm)	Width (in.)	Width (mm)	Length (in.)	Length (mm)	Pkg. Qty.
TC92	#6 screw	.190	4.83	.625	15.9	.566	14.4	100
TC839		.190	4.83	.875	22.2	2.440	61.9	100

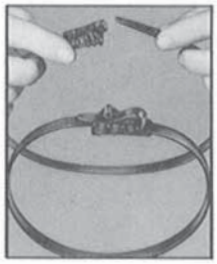
Ty-Rap®

Lashing Straps

Heavy duty lashing tie (releasable)

Cat. No.	Bulk Pkg. Cat. No.	Body Width (in.)	Body Width (mm)	length (in.)	length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk Pkg. Qty
TY5409	TY409	.500	12.7	19.00	482	4.75	120	200	890	25	100

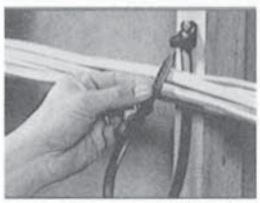
The heavy-duty lashing tie is made from weather - resistant nylon. The addition of carbon black provides good ultraviolet resistance and prolongs the useful life of the cable tie.



Weather-resistant polypropylene hanger lashing tie (releasable)

Cat. No.	Body Width (in.)	Body Width (in.)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk Qty.
TY53418PX	.500	12.7	18	457	5	127	150	667	25	250

Many factors combine to determine the useful life of a cable tie and chemical exposure can be a very important consideration in certain situations. Polypropylene cable ties are ideally suited for chemical environments. It is black for outdoor use.



This lashing tie is ideally suited for chemical environments that are unsuitable for nylon. It is made of black, weather-resistant polypropylene for outdoo use.

Weather-resistant nylon 12 messenger hanger straps (releasable)

Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Hook Material	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk Pkg.
TYM5412X	.500	12.7	12	305	3	76	Bronze	200	890	50	250
TYM5418X	.500	12.7	18	457	5	127	Bronze	200	890	25	100
TYM5423X	.500	12.7	24	609	7	177	Bronze	200	890	25	100
TYM5412X-S	.500	12.7	12	305	3	76		200	890	50	250
TYM5418X-S	.500	12.7	18	457	5	127	Stainless	200	890	25	100
TYM5423X-S	.500	12.7	24	609	7	177	steel	200	890	25	100

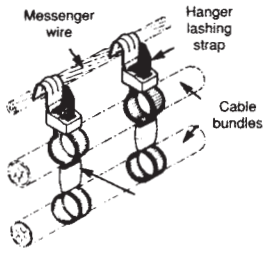
The recommended, maximum continuous static loading for the nylon 12 straps is 25 lbs. (11.4kg) per strap. For best results suggested spacing is 15 inches. It is the responsibility of the user to determine whether or not their application meets our recommendation.

Nylon 12 provides very good resistance to ultraviolet light and chemical exposure. Nylon 12 is a lower, moisture-absorbing material than 6/6 nylon and the effect of water on properties is much less.

Messenger hanger spacer

Cat. No.	Description	Unit Quan.	Std. Pkg.
TC5254	1" (25mm) long stackable spacer for messenger straps	50	250

This one-inch long spacer allows you to separate power and signal cables with a singlehanger, lashing strap if desired. The spacer is stackable so that you may suspend the cable bundle at any desired distance from the messenger wire in order to keep the cable runs parallel.



Spacer separating cable bundles

Thomas&Betts

Ty-Rap®

Cable Ties - DELTEC®

DELTEC® cable ties

The DELTEC cable ties were designed for outdoor applications that require strength, durability and ease of installation. This was accomplished by the use of innovative materials and creative design. Superior performance can be attributed to both the materials used, weatherable acetal, and the traditional "smooth body" design, which has proven to be less stress-sensitive than notched cable ties.

Weathering - 20 Year Outdoor Life

DELTEC cable ties offer excellent resistance to ultraviolet light. They maintain good tensile properties in applications that require much greater life than standard weatherable ties. Ideal for marine environment.

Moisture

DELTEC cable ties, exposed to 100% RH, will absorb .8% compared to nylon 6/6 which will absorb as much as 8.5%. Weatherable acetal is a low moisture-absorbing material, and the effect of water is minimal.

Chemicals

Weatherable acetal compositions have excellent resistance to a variety of solvents, oil greases, gasoline and other petroleum hydrocarbons. However, DELTEC cable ties are not recommended for use with strong acids.

DELTEC® strap on a reel

Cat. No.	Description	Tensile Strength (lbs.)	Tensile Strength (N)	Body Width (in.)	Body Width (mm)	Unit Quan.	Bulk Pkg.
TYD-50R	50 foot reel of strap (15.22 metres)	250	1112	.500	12.7	1	5
696-41794	1000 foot reel of strap (304.4 metres)	250	1112	.500	12. 7	1	5

Locking heads

Cat. No.	Description	Unit Quan.	Bulk Pkg.
TYD-LH	Heads only for DELTEC strap	25	125
696-41795	Heads only for DELTEC strap - bulk pack	—	500

DELTEC® base and hanger

Cat. No.	Description	Unit Qty.	Bulk Pkg
CSS-B	Base for Deltec strap	50	500
CSS-H	Hanger for Deltec strap	50	500

- *made of zinc-plated steel*
- *secures cables to all types of surfaces*

Modular stackable cable spacers

Cat. No.	Description	Unit Qty.	Bulk Pkg.
TCP5255	Stackable spacer for DELTEC straps	25	100

Deltec® Installation Tool

Cat No.	Description	Body Width (in.)	Body Width (mm)	Std. Pkg.	wt. Each	wt. Each
WT3D	Installs self-locking TY-RAP cable ties and Deltec strapping.	.184 thru .500	4.67 thru 12.7	1	8 oz.	227gms

Works equally well for mini and normal Deltec products. **NOTE** Tensions only

Ty-Rap®

Cable Ties Mini DELTEC®

T&B Telecommunications The Universal™ Cable Tie System

Modeled after our highly successful Deltec® Cabling Support System the Universal™ Cable Tie System is designed to provide a strong, durable, and cost efficient method of securing cables.

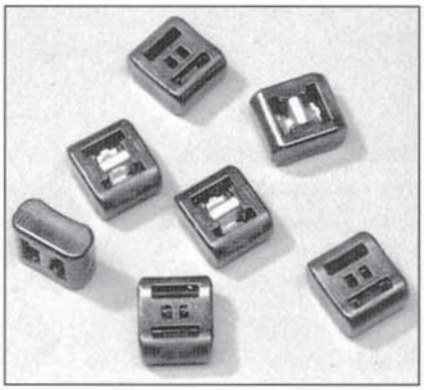
The Universal™ Cable Tie System has been designed to eliminate the need to purchase and stock hundreds of different sizes and types of cable ties. This system is designed to handle 120 lbs. (55kg) tensile strength in any environment throughout outside plant.

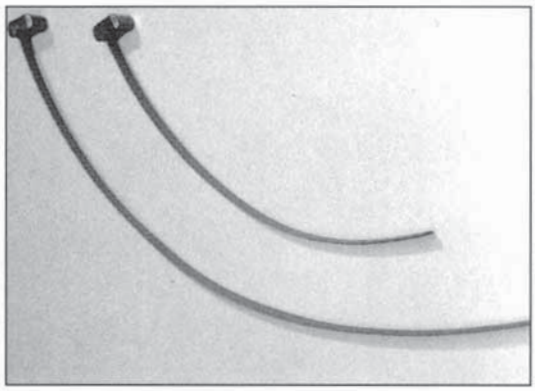
The Universal™ Cable Tie System can be used aerially, buried, submerged, vertically or horizontally.

The use as you go payout spool allows you to always have the correct amount of material in any situation. The Universal™ Cable Tie System is sold on a 50 ft. (15.2M) reel and a bag of 25 locking heads. Two part numbers can take the place of hundreds.

Advantages

- No sharp edges - craft friendly! cable friendly!
- Ease of installation - one wrap, no re-threading or re-strap.
- Lowers installation costs. High tensile strength after fastening. Total flexibility in lengths.





Specifications

Strap and Body-	DuPont DELRIN plastic, offers superior resistance to UV rays, moisture, and saline environments
Locking Device-	Corrosion-resistant copper alloy
Installation Range-	-16° to 83°C
Strap Width-	0.295inch (7.5mm)
Maximum Tensile Strength-	120 pounds (54.4 kg)
Outdoor Life-	Designed to last a minimum of 20 years Continuous Load -10 pounds (4.5kg)

Ordering Information

Cat No	Description	Qty
UCT50R	Reel of strap replaces many metal straps. ten reels per carton. Order by reel.	1 (50 ft. reel)/box
UCTLH	Molded acetal with marine grade metal locking device. Used with 50' reel of strap. 25 per bag; 500 per case.	25 locking heads/bag

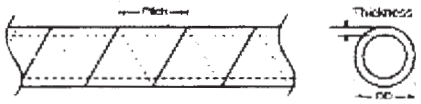
Ty-Rap®

Spiral Wrapping & Grommet Gland Edging

Spiral Wrapping

Cat No.	Material	Outside Diameter (mm)	Pitch (mm)	Nominal Wall Thickness (mm)	Bundle Range Min (mm)		Max (mm)	Pack Size (mtrs)
SRPE-125-9-C	Natural Poly	3.2	5.3	.9	1.6	to	12.7	5
SRPE-187-9-C	Natural Poly	4.8	6.1	1.0	3.2	to	25.9	5
SRPE-250-9-C	Natural Poly	6.4	9.5	1.1	4.8	to	50.8	5
SRPE-375-9-C	Natural Poly	9.5	11.1	1.3	7.9	to	76.2	5
SRPE-500-9-C	Natural Poly	12.7	14.3	1.6	9.5	to	102.0	5
SRPE-625-9-C	Natural Poly	15.9	15.9	1.6	15.9	to	114.3	5
SRPE-750-9-C	Natural Poly	19.1	19.1	1.7	19.1	to	127.0	5
SRPE-1000-9-C	Natural Poly	25.4	28.2	1.8	25.4	to	177.8	3
SRPE-125-0-C	UV Black Poly	3.2	5.3	.9	1.6	to	12.7	5
SRPE-187-0-C	UV Black Poly	4.8	6.1	1.0	3.2	to	25.9	5
SRPE-250-0-C	UV Black Poly	6.4	9.5	1.1	4.8	to	50.8	5
SRPE-375-0-C	UV Black Poly	9.5	11.1	1.3	7.9	to	76.2	5
SRPE-500-0-C	UV Black Poly	12.7	14.3	1.6	9.5	to	102.0	5
SRPE-625-0-C	UV Black Poly	15.9	15.9	1.6	15.9	to	114.3	5
SRPE-750-0-C	UV Black Poly	19.1	19.1	1.7	19.1	to	127.0	5
SRPE-1000-0-C	UV Black Poly	25.4	28.2	1.8	25.4	to	177.8	3
SRFR-125-WH-C	White	3.2	5.3	.9	1.6	to	12.7	5
SRFR-187-WH-C	Flame	4.8	6.1	1.0	3.2	to	25.9	5
SRFR-250-WH-C	Retardant	6.4	9.5	1.1	4.8	to	50.8	5
SRFR-375-WH-C	Polyethylene	9.5	11.1	1.3	7.9	to	76.2	5
SRFR-500-WH-C		12.7	14.3	1.6	9.5	to	102.0	5
SRNY-250-9-C	Natural Nylon	6.4	9.5	.6	4.8	to	50.8	5
SRNY-375-9-C	Natural Nylon	9.5	11.1	9	7.9	to	76.2	5
SRNY-500-9-C	Natural Nylon	12.7	14.3	.9	9.5	to	102.0	5
Tolerance ±		.76	.25	.25				

Also available in 30m rolls



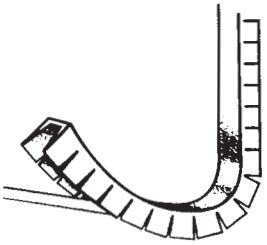
- *For protection of bundles from .063" to 7" (1.6mm to 177.8mm).*
- *Install gapped for greater flexibility or butted for maximum abrasion resistance, insulation and rigidity.*
- *Available in 4 materials including polyethylene and nylon.*
- *a. k. a: Right-Hand Cut, Clockwise Cut. Use cutting tool SR-100.*
- *Contact factory for availability of quantities in custom colours.*

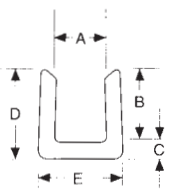
Grommet Edging

Cat No.	Material	Max Panel Thickness A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Pack Size (mtrs)
GRPE-040-9-C	Natural Poly	1.01	3.81	1.01	4.82	3.17	5
GRPE-052-9-C	Natural Poly	1.32	3.81	1.01	4.82	3.175	5
GRPE-062-9-C	Natural Poly	1.57	3.93	1.14	5.08	4.32	5
GRPE-085-9-C	Natural Poly	2.15	3.93	1.14	5.08	4.32	5
GRPE-100-9-C	Natural Poly	2.54	4.44	1.14	5.58	5.23	5
GRPE-125-9-C	Natural Poly	3.17	4.44	1.27	5.58	5.23	5
GRPE-187-9-C	Natural Poly	4.74	5.63	1.27	6.85	6.98	5
GRPE-250-9-C	Natural Poly	6.35	5.84	1.27	7.11	9.39	5

Also available in 30 m rolls

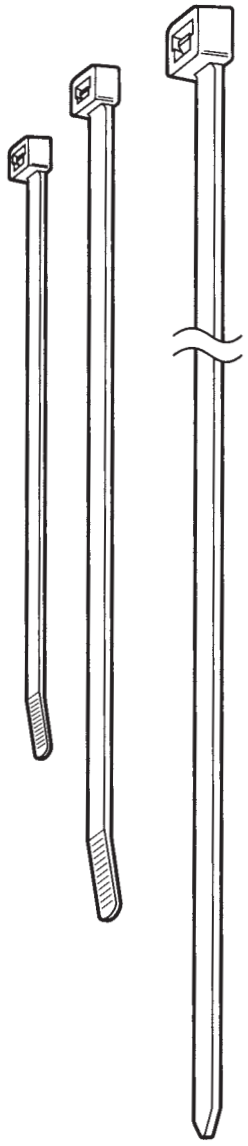
- *Used to line panel edges and knock-outs where the chafing of passing wires is a concern*
- *Available in 8 stock sizes in 30 mtr lengths for panels from 1mm to 6.4mm thick*
- *Variety of stocked materials to cover a wide range of applications*





Ty-Rap®/Ty-Fast®

Ty-Fast One Piece Cable Ties - *Ty-Fast™ cable ties fit the needs of OEMs.*



Designed with OEMs in mind, this new series of competitively priced Ty-Fast cable ties holds down costs and speeds up cable fastening. Our all-nylon design lowers installation costs and provides features to ease fastening for harness fabrication and wire bundling in the manufacturing environment.

Ty-Fast cable ties are made of nylon 6/6 and perform well in most applications in temperatures ranging from 185°F to -40°F (85°C to —40°C). The smooth edges are designed to prevent damage to wire insulation, reducing the opportunity for shorting, and tails are "turned up" for fast assembly.

Ty-Fast cable ties come in natural or outdoor weatherable black and custom colours and options are available.

Ty-Fast cable ties may be fastened with standard Thomas & Betts tying tools. All your favorite Ty-Rap® mounting bases and accessories may be used with Ty-Fast cable ties. For harsh industrial environments, use our "grip of steel" Ty-Rap cable ties with the unique stainless steel barb.

Ty-Rap and Ty-Fast cable ties combine to offer the most complete package of cable ties and accessories for the fastening market.

- *The integrally formed nylon pawl combines low insertion and high locking strength*
- *A rounded, low-profile head makes for less snags*
- *Tails have an improved two-sided finger grip design that helps the operator grasp and pull ties snug*
- *"Sure Grip" tab keeps the tail from popping out while being threaded, then holds it securely for final tightening by hand or tool*
- *Quick, easy pull through increases productivity, reduces operator fatigue*

Ty-Fast Cable Ties - Natural

Cat. No.	Min. Tensile Strength (in lbs.)	Min. Tensile Strength (N)	Tie Length (in.)	Tie Length (mm)	Max. Bundle Diameter (in.)	Max. Bundle Diameter (mm)	Width (in.)	Width (mm)	Std Pkg. (pieces)
TY075-18	18	80	3.60	104	.75	19.05	.095	2.40	1000
TY125-18	18	80	6.60	168	1.25	40.00	.095	2.40	1000
TY125-40	40	178	5.60	150	1.25	31.75	.140	3.60	1000
TY175-50	50	222	7.30	182	1.75	44.45	.184	4.80	1000
TY200-18	18	80	7.75	204	2.00	50.80	.095	2.40	1000
TY200-40	40	178	8.00	206	2.00	50.80	.140	3.60	1000
TY200-120	120	534	11.00	280	2.00	76.00	.299	7.60	500
TY300-40	40	178	11.40	304	3.00	76.20	.140	3.60	1000
TY300-50	50	222	11.40	307	3.00	76.20	.184	4.80	1000
TY400-50	50	222	14.30	370	4.00	101.60	.184	4.80	1000
TY400-120	120	534	14.30	380	4.00	101.60	.301	7.60	500
TY500-50	50	222	16.90	430	4.70	120.00	.184	4.80	100
L-18-120-9-L	120	534	18.00	457	4.90	124.00	.300	7.60	50
L-24-175-9-L	175	779	24.00	612	7.2	184.00	.345	8.80	50
L-36-175-9-L	175	779	36.00	914	10.8	273.00	345	8.80	50
L-48-175-9-L	175	779	48.00	1216	14.7	375.00	345	8.80	50

Add -100 to Catalogue No. for 100 packs (eg TY075-18-100)

Ty-Fast Cable Ties - Black (Outdoor Weatherable)

Cat. No.	Min. Tensile Strength (in lbs.)	Min. Tensile Strength (N)	Tie Length (in.)	Tie Length (mm)	Max. Bundle Diameter (in.)	Max. Bundle Diameter (mm)	Width (in.)	Width (mm)	Std Pkg. (pieces)
TY075-18X	18	80	3.60	91.4	.75	19.05	.095	2.40	1000
TY125-18X	18	80	5.34	135.6	1.25	31 75	.095	2.40	1000
TY125-40X	40	178	5.60	142.2	1.25	31.75	.140	3.60	1000
TY175-50X	50	222	7.30	185.4	1.75	44.45	.184	4.80	1000
TY200-18X	18	80	7.75	196.8	2.00	50.80	.095	2.40	1000
TY200-40X	40	178	8.00	203.0	2.00	50.80	.140	3.60	1000
TY200-120X	120	534	8.63	219.2	2.00	50.80	.299	7.60	500
TY300-40X	40	178	11.40	289.5	3.00	76.20	.140	3.60	1000
TY300-50X	50	222	11.40	289.5	3.00	76.20	.184	4.80	1000
TY400-50X	50	222	14.30	363.2	4.00	101.60	.184	4.80	1000
TY400-120X	120	534	14.30	363.2	4.00	101.60	.301	7.60	500
TY500-50X	50	222	16.9	430.0	4.70	120.00	.184	4.80	100
L-18-120-0-L	120	534	18.00	457.0	4.90	124.00	300	7.60	50
L-24-175-0-L	175	779	24.00	612.0	7.20	184.00	345	8.80	50
L-36-175-0-L	175	779	36.00	914.0	10.8	273.00	345	8.80	50
L-48-175-0-L	175	779	48.00	1216.0	14.7	375.00	345	8.80	50

Add -100 to Catalogue No. for 100 packs (eg. TY075-18X-100)

For Mil Spec details on one piece cable ties contact your local T&B office.

Ty-Rap®

Ty-Grip Fasteners

These handy ties are very easy to release and re-use, making them ideal for applications where changes are anticipated or continuous access is required.

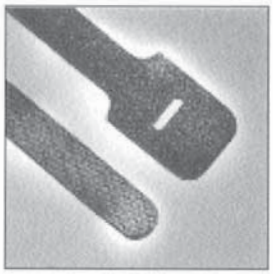
Features

- *High quality Hook & Loop Fasteners designed specifically for Thomas & Betts.*
- *Allows quick and convenient bundling of Category 5 & Fiber optic cables.*
- *Multiple colours available for identifying specific bundles.*
- *Sizes available to accommodate varying bundle diameters.*
- *Screw and adhesive mounting bases provide multiple mounting options.*

FO Series Loop Ties

Ideal for wrapping pre-determined bundle diameters because of the convenient slotted head

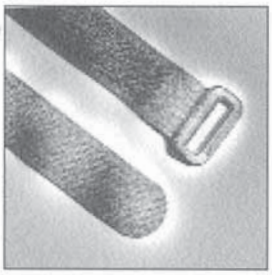
T&B Cat. Number	Min Tensile Strength	Max Bundle Diameter	Length	Inner Pack Quantity	Outer Pack Quantity
FO200-40	18.0kg	50.8mm	228.6mm	10	100
FO200-50	22.7kg	50.8mm	228.6mm	10	100
FO350-40	18.0kg	88.9mm	330.2mm	10	100
FO350-50	22.7kg	88.9mm	330.2mnn	10	100



FOL Series Buckle Ties

Buckle ties provide added strength and stability because of the high performance polymer buckle

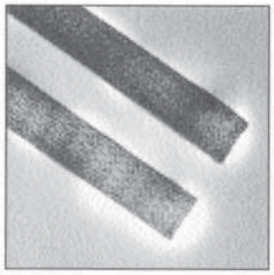
T&B Cat. Number	Min Tensile Strength	Max Bundle Diameter	Length	Inner Pack Quantity	Outer Pack Quantity
FOL300-50	22.7kg	76.2mm	304.8mm	10	100
FOL500-50	22.7kg	127.0mm	457.2mm	10	100



FOS Series Strip Ties

Pre-cut lengths which makes bundling a cinch

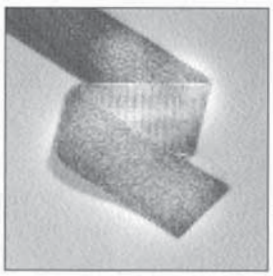
T&B Cat. Number	Min Tensile Strength	Max Bundle Diameter	Length	Inner Pack Quantity	Outer Pack Quantity
FOS150-50	22.7kg	38.1 mm	152.4mm	10	100
FOS320-50	22.7kg	81.3mm	304.8mm	10	100
FOS500-50	22.7kg	127.0mm	457.2mm	10	100



FOR Series Rolled Hook and Loop

Rolled hook and loop allows customers to conveniently cut pieces to desired lengths, eliminating waste

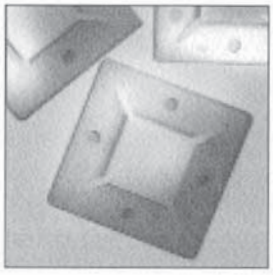
T&B Cat. Number	Min Tensile Strength	Max Bundle Diameter	Length	Inner Pack Quantity	Outer Pack Quantity
FOR180-50	22.7kg	Various	4572.0mm	1	10



Mounting Bases

Two mounting bases specifically designed for use with Ty-Grip™ hook and loop fasteners

T&B Cat. Number	Description	Mounting	Screws	Max Tie Width	Pack Quantity
TC368	50.8mm x 50.8mm	Screw mounted	#8	19.1 mm	500
TC5368	50.8mm x 50.8mm	Screw mounted	#8	19.1mm	25
TC368A	50.8mm x 50.8mm	Adhesive mounted	#8	19.1 mm	500
TC5368A	50.8mm x 50.8mm	Adhesive mounted	#8	19.1mm	25



Available in colours	BLACK	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	GREY	WHITE
Add suffix	0	1	2	3	4	5	6	8	9

Example FO200-40-2 would be red FO200-40

Ty-Rap®

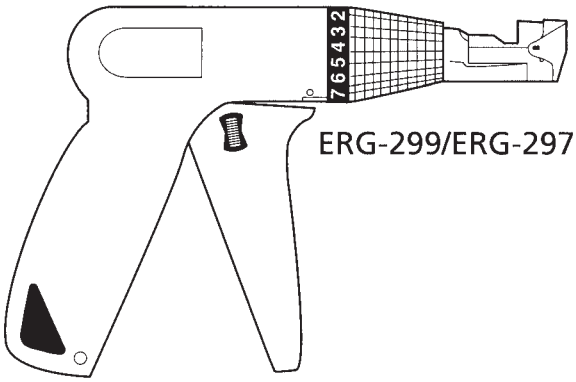
Installing tools

TY-RAP® installing tools

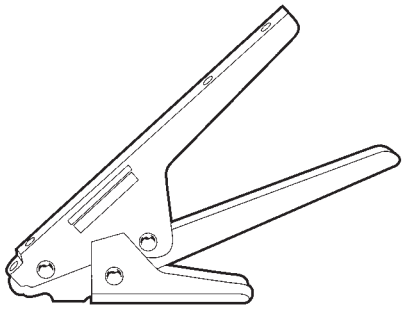
Cat No	Description	Cable tie Body Width (in.)	Cable tie Body Width (mm)	Std Pkg.
WT193A	Pistol-type, easy tension adjustment, cuts tail off flush	.094-.184	2.39-4.67	1
WT197	Pistol-type, easy tension adjustment, cuts	.184-.301	4.67-7.65	1
WT199	tail off flush, military qualified MS 90387-2 and MS 90387-1 (WT 199)	.094-.184	2.39-4.67	1
TR227	Semiautomatic hand tool	.094-.184	2.39-4.67	—
TR227R	Replaceable head for TR227		—	
WT3D	Installs self-locking TY-RAP cable ties, 2-piece lashing ties and Deltec	.184 thru .500	4.67 thru 12.70	1
WT1	Compact hand tool made of high-impact	.094 thru .184	2.39 thru 4.67	1
WT2	plastic, preset tension cuts off flush lightweight and economical	.184-.301	4.67-7.65	1

TY-RAP/TY-FAST Installing tools

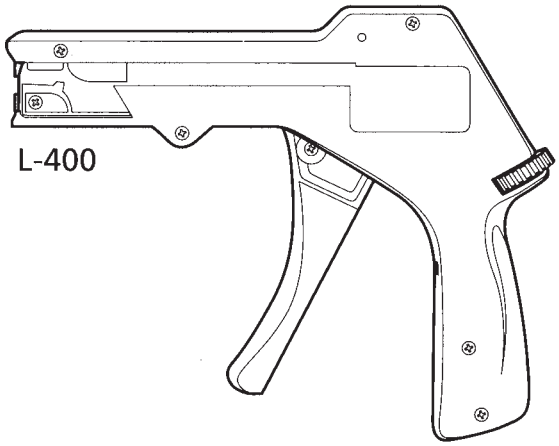
Cat No	Description	Cable tie Body Width (in.)	Cable tie Body Width (mm)	Std Pkg.
L-400	Heavy Duty tool for use with 18 - 50 Lb (8 - 22.7 Kg) ties. Automatic cut-off and adjustable tensioning for dependable use in assembly applications	.094-.189	2.4-4.8	1
L-300	Rugged construction makes this tool ideal for use with our 120 - 175Lb (54.5 - 79.5Kg) ties cinch tie to desired bundle and pull trigger to cut excess flush at cable tie head. Field proven durability	.300-.346	7.6-8.8	1
ERG-299 Black Handle	18 - 50 Lb (8 - 22.7 Kg) Width .094 - .184" Adjustable tension with auto cutt off. For use with appropriate width ties and is particularly recommended for use with the Thomas & Betts Safe-Ty	.094-.189	2.4-4.8	1
ERG-297 Red Handle	50 - 120 Lb (22.7 - 54.5 Kg) Width .184 - .301" Notes as above	.189-.300	4.8-7.6	1



ERG-299/ERG-297



L-300



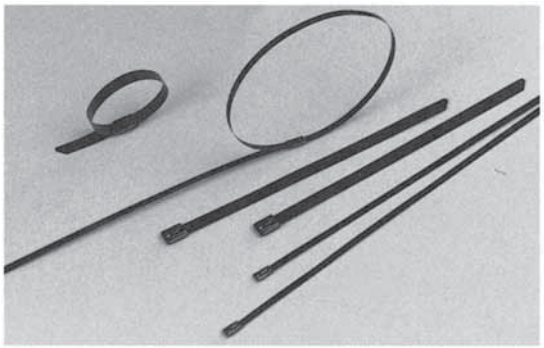
L-400

Ty-Rap®

316 Stainless Steel - Ball Lock Ties

Cat. No.	Width (mm)	Length (mm)	Pack Size
LSY-4.6-100B	4.6	100	100
LSY-4.6-150B	4.6	150	100
LSY-4.6-200B	4.6	201	100
LSY-4.6-360B	4.6	360	100
LSY-4.6-520B	4.6	520	100
LSY-4.6-680B	4.6	679	100
LSY-4.6-840B	4.6	838	100
LSY-4.6-1000B	4.6	1000	100
LSY-7.9-100B	7.9	100	100
LSY-7.9-150B	7.9	150	100
LSY-7.9-200B	7.9	201	100
LSY-7.9-360B	7.9	360	100
LSY-7.9-520B	7.9	520	100
LSY-7.9-680B	7.9	679	100
LSY-7.9-840B	7.9	838	100
LSY-7.9-1010B	7.9	1010	100
LSY-7.9-1200B	7.9	1200	100
LSY-7.9-1300B	7.9	1300	100
LSY-7.9-1400B	7.9	1400	100

Nylon coated ties are also available: Add suffix C to part number eg LSY-7.9-200BC



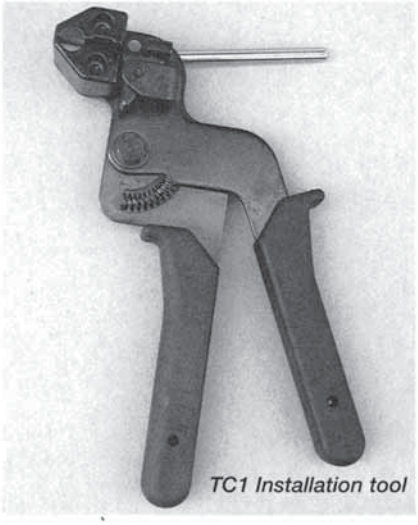
Continuous Length and Heads 316 Stainless Steel

Cat No.	Width (mm)	Continuous Lengths
LSY-4.6-50XB	4.6	50mt
LSY-4.6-100XB	4.6	100mt
LSY-4.6-HEADB	4.6	Box of 100
LSY-7.9-50XB	7.9	50mt
LSY-7.9-100XB	7.9	100mt
LSY-7.9-HEADB	7.9	Box of 100

Convenient continuous lengths of band with loose heads. This enables ties of any length to be made on the job, eliminating costly down time and scrap.

Installation Tool & Sleeving

Cat No.	Description
TC1	LSY series pull up tool for use with 4.6mm and 7.9mm width ties. Manual tension and cut off.
LSY-Sleeve	PVC Sleeving for Stainless Steel ties. 30mt roll.



TC1 Installation tool

Wide range of sizes

Eleven standard lengths up to 1400mm long will cover most applicatons but custom lengths are also available. Two widths are offered with minimum loop tensile strengths of 45kg and 113 kg. Space requirements are minimised by the low head profile.

Fast, easy installation

Thomas & Betts stainless steel ties are self-locking, requiring no time consuming crimping or folding operations. The strong locking mechanism, incorporating a steel ball, has a low insertion force while the strap section has rounded edges and smooth surfaces making the ties ideal for fast, safe, hand installation.

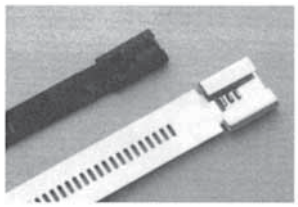
Thomas&Betts

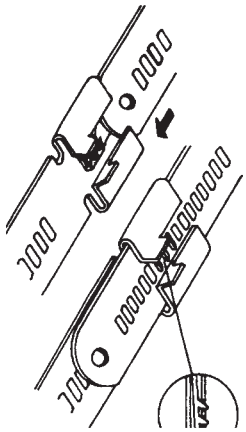
Ty-Rap®

Stainless Steel Ladder Cable Ties (self locking)

Fire hazards ... corrosive environments ... temperature extremes ... for many cable bundling applications, plastic ties are simply inadequate or even dangerous.
That's why we developed stainless steel Ladder. Unaffected by fire, UV or extreme temperatures, corrosion resistant Ladder Ties provide a safe, strong, worry-free hold.
Quickly and easily applied by hand or with the Thomas & Betts cable tie tensioner or tensioning hook, Ladder Ties feature a unique, self-locking, multiple-locking system that holds in excess of 200 lbs (890 N).

Ladder Ties are manufactured from Type 316 stainless steel and are available either uncoated or coated with halogen-free, non-toxic black Nylon 11. This weather-resistant coating is unaffected by UV sunlight. This adds resistance to corrosion, chemicals, and weathering. Ties are available in two widths and various lengths.





As the free end of the Ladder tie passes through the buckle,separate teeth mesh with corresponding slots in the band automatically locking the tie as it is being tensioned. Self-locking Ladder Ties feature an extremely strong, unique multiple locking system.

Type 316 Stainless Steel Ladder Tie -Uncoated

Cat. No.	Tensile Strength lbs.	Width in.	Width mm	Length in.	Length mm	Pack Size
ST150/7	100	.276	7	5.9	150	100
ST200/7	100	.276	7	7.9	200	100
ST250/7	100	.276	7	9.8	250	100
ST300/7	100	.276	7	11.8	300	100
ST360/7	100	.276	7	14.2	360	100
ST450/7	100	.276	7	17.7	450	100
ST600/7	100	.276	7	23.6	600	100
ST750/7	100	.276	7	29.5	750	100
ST1000/7	100	.276	7	39.4	1000	100
ST150/12	250	.427	12	5.9	150	100
ST200/12	250	.472	12	7.9	200	100
ST250/12	250	.472	12	9.8	250	100
ST300/12	250	.472	12	11.8	300	100
ST360/12	250	.472	12	14.2	360	100
ST450/12	250	.472	12	17.7	450	100
ST600/12	250	.472	12	23.6	600	100
ST750/12	250	.472	12	29.5	750	100
ST1000/12	250	.472	12	39.4	1000	100

Packaging Quantity-100/bag

Nylon coated ties are also available: Add suffix C to part number eg; ST200/7C

Original Line - Stainless steel cable ties

Cat. No.	Body Width (in.)	Body Width (mm)	Length (in.)	Length (mm)	Max. Wire Bundle Dia. (in.)	Max. Wire Bundle Dia. (mm)	Tensile Strength (lbs.)	Tensile Strength (N)	Unit Qty.	Bulk. Pkg.
TYS8	.310	7.90	10.65	270	2	51	200	890	100	500
TYS14	.310	7.90	14.65	372	4	102	200	890	50	250
TYS22	.310	7.90	22.65	575	6	152	200	890	50	250
TYS28	.310	7.90	28.65	728	8	203	200	890	50	250

Note: Use WT3S Tool for tensioning.

Stainless steel mounting base

Cat. No.	Description	Unit Qty.	Std. Pkg.
TCS25	Mounting base for stainless steel ties	50	250

Ty-Rap®

Ty-Rap®

Self-Lok Stainless Steel Tie

The primary use of stainless steel cable ties is where the environment is too harsh for synthetic materials or the temperature range required is in excess of the working capacity of other types of ties. The stress/tension, holding weight, chemical resistance, abrasion resistance or UV requirement, may also be a factor in the choice to use stainless steel over other alternative materials.
Stainless steel cable ties are typically used in the following types of applications.
Where MIMS (Pyrotanix) cable is used in fire protection, the Aust. Standard require fixing by stainless steel ties.

- A broad range of marine applications.
- S/S ties are widely used in the mining industry.
- Petro chem/gas plants/ chemical industry.
- High temperature applications.
- Food industry.
- Long life outdoor applications.
- Submarine applications.

The Self-Lok tie is different from the other ties as it has a roller in the head which locks the tie, in lieu of the ball used in the ball bearing type tie

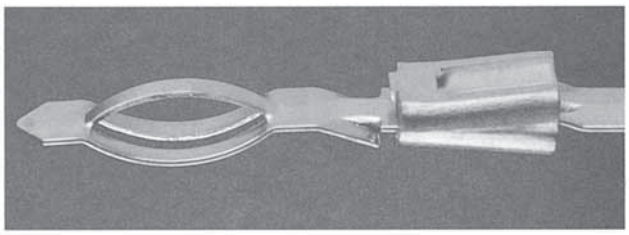
The Self-Lok tie has several advantages over the other ties.
Firstly, it allows for a lower profile head making the Self-Lok ties considerably more streamlined and space conscious.
Secondly the roller has greater surface area in contact with the locking area, this provides less slip and better holding power than its ball type alternative.
The Self-Lok tie is available in both 304S/S and 316S/S in a width of 4.8mm. Lengths available range from 137 to1200mm.
A demand has also shown itself for a continuous length ball type tie with loose heads, this is now also available.

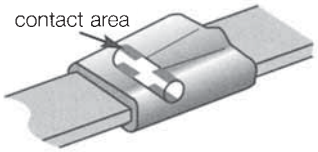
Self-Lok's large contact area provides more locking force with less slippage

Minimum Loop Tensile Strength: 150 lbs.
Width: 3/16" 5mm Thickness: .010" .245mm

Type 304 Stainless Steel

Cat. No.	UIC No.	For max. Bundle Diameter of In	mm	Length In	mm	Package Qty	Weight Lb	Kg
K011	21011	1	25	5.4	137	100	.38	.17
K012	21012	2	51	8.4	213	100	.54	.24
K013	21013	2.7	69	10.9	276	100	.68	.31
K014	21014	4	102	14.9	378	100	.90	.41
K015	21015	6	152	20.9	530	100	1.2	.54
K016	21016	8	203	27.4	695	50	1.6	.73
K017	21017	10	254	33.4	848	50	1.9	.86
K018	21018	12	305	42.4	1076	50	2.4	1.09
K019	21019	14	356	47.4	1203	50	2.7	1.22
Type 316 Stainless Steel								
K041	21041	1	25	5.4	137	100	.38	.17
K042	21042	2	51	8.4	213	100	.54	.24
K043	21043	2.7	69	10.9	276	100	.68	.31
K044	21044	4	102	14.9	378	100	.90	.41
K045	21045	6	152	20.9	530	100	1.2	.54
K046	21046	8	203	27.4	695	50	1.6	.73
K047	21047	10	254	33.4	848	50	1.9	.86
K048	21048	12	305	42.4	1076	50	2.4	1.09
K049	21049	14	356	47.4	1203	50	2.7	1.22

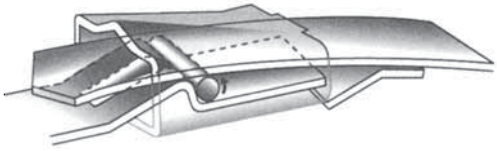




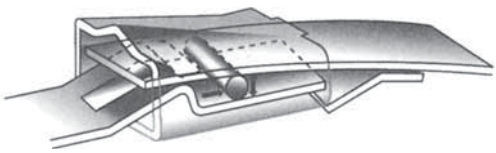
Self-Lok contacts both top and bottom of the band at the edges, the strongest area of the buckle.

The Strongest, Lowest Profile, Stainless Steel Self-Locking Cable Tie Available!

Here's how Self-Lok works...



Insert the tail into the buckle. The internal locking bar rolls freely as the tie is tightened.



Once the proper tension is reached the Self-Lok Tool automatically cuts off the tail. The bar then wedges into the buckle locking it tightly against both the top and bottom of the band.

Lower Profile ... Smooth I.D... Smaller Clamp Diameter

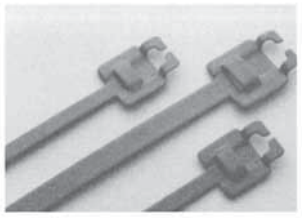
Thomas&Betts

Ty-Rap®

Reusable Stainless Steel Cable Ties

These reusable cable ties are made from high-strength, corrosion-resistant 200/300 type stainless steel, coated with a non-toxic, halogen-free, low-smoke Nylon 11.
The unique buckle design provides quick, easy application and can just as easily be unfastened for reuse.

The weather-resistant Nylon 11 coating is unaffected by UV, extremely flexible at low temperatures and protects the cables from damage or interference due to direct contact with the stainless steel. The coated product is also user-friendly on the installer's hands.

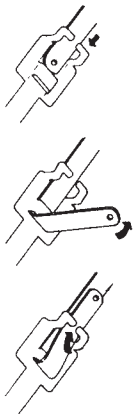


For Cable Bundling in Harsh Environments

Reusable Stainless Steel Cable Ties–Coated

Cat.No.	Tensile Strength kg.	Width in	Width mm	Length in	Length mm	Weight lb	Weight kg
SSR6-250C	75	1/4	6.35	6	152	1.4	.6
SSR9-250C	75	1/4	6.35	9	229	1.8	.8
SSR12-250C	75	1/4	6.35	12	305	2.1	1.0
SSR18-250C	75	1/4	6.35	18	457	3.0	1.4
SSR24-250C	75	1/4	6.35	24	610	3.7	1.7
SSR6-375C	100	3/8	9.53	6	152	1.8	.8
SSR9-375C	100	3/8	9.53	9	229	2.5	1.1
SSR12-375C	100	3/8	9.53	12	305	3.1	1.4
SSR18-375C	100	3/8	9.53	18	457	4.4	2.0
SSR24-375C	100	3/8	9.53	24	610	6.6	3.0
SSR30-375C	100	3/8	9.53	30	762	7.0	3.2
SSR36-375C	100	3/8	9.53	36	914	8.3	3.8

200/300 Type Stainless Steel
Packaging Quantity: 100/bag
Nylon 11 Coating
Note: This product may be double-wrapped for additional tensile strength. For additional colours and uncoated ties, consult Thomas & Betts customer service.



Fast, easy installation Thomas & Betts Reusable Ties are fast and easy to install. Simply pass free end of tie through buckle bridge, tension by hand or with a Thomas & Betts Tensioning Tool, bend over bridge, and secure into preformed ears.

Stainless Steel Dual Lock Cable Ties

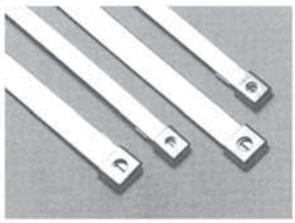
Standard Stainless Steel Cable Ties

Cat. No.	For Bundle Diameter of in.	For Bundle Diameter of mm	Tensile Strength lb	Width in.	Width mm	Length in.	Length mm	Weight lb	Weight kg
SS10-250	2	51	200	.25	6.35	10.0	254	1.1	0.50
SS17-250	4	101	200	.25	6.35	16.5	419	1.8	0.82
SS23-250	6	152	200	.25	6.35	22.5	572	2.5	1.14
SS29-250	8	203	200	.25	6.35	29.0	737	3.2	1.45
SS35-250	10	254	200	.25	6.35	35.0	889	3.8	1.73

Mini Stainless Steel Cable Ties

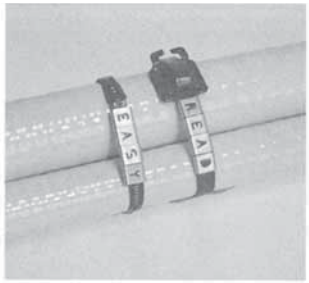
SS7-180	1	25	100	.177	4.5	6.5	165	0.7	0.32
SS10-180	2	51	100	.177	4.5	10.0	254	0.9	0.41
SS16-180	4	102	100	.177	4.5	16.0	406	1.4	0.64
SS23-180	6	152	100	.177	4.5	22.5	572	1.8	0.80
SS29-180	8	203	100	.177	4.5	29.0	737	2.3	1.10

304 Stainless Steel
Packaging Quantity=100/bag
Use WTA250 Installation tool with standard size and WTA290 with mini sizes. See page 34 for more details.



Strong, safe, low-profile permanent single wrap ties with a unique, patented dual lock.

Ty-Rap®
Stainless Steel I.D



The Thomas & Betts Stainless Steel I.D. Tagging System includes a complete range of individual letters, numbers, and symbols. Slip them over carriers (shown above) or strips (below) and attach to your cable or hose with a variety of Thomas & Betts Stainless Steel Cable Ties.

Thomas & Betts Stainless Steel I.D. Tag

Cat. No.	Description	Length (in.)	Length (m m)	Width (in.)	Width (m m)	Std. Pkg.	Wt. per 100(lbs)	Wt. per 100(gms)
ER010	A	.445	11.3	.375	9.6	25	.31	140
ER011	B	.445	11.3	.375	9.6	25	.31	140
ER012	C	.445	11.3	.375	9.6	25	.31	140
ER013	D	.445	11.3	.375	9.6	25	.31	140
ER014	E	.445	11.3	.375	9.6	25	.31	140
ER015	F	.445	11.3	.375	9.6	25	.31	140
ER016	G	.445	11.3	.375	9.6	25	.31	140
ER017	H	.445	11.3	.375	9.6	25	.31	140
ER018	I	.445	11.3	.375	9.6	25	.31	140
ER019	J	.445	11.3	.375	9.6	25	.31	140
ER020	K	.445	11.3	.375	9.6	25	.31	140
ER021	L	.445	11.3	.375	9.6	25	.31	140
ER022	M	.445	11.3	.375	9.6	25	.31	140
ER023	N	.445	11.3	.375	9.6	25	.31	140
ER024	O	.445	11.3	.375	9.6	25	.31	140
ER025	P	.445	11.3	.375	9.6	25	.31	140
ER026	Q	.445	11.3	.375	9.6	25	.31	140
ER027	R	.445	11.3	.375	9.6	25	.31	140
ER028	S	.445	11.3	.375	9.6	25	.31	140
ER029	T	.445	11.3	.375	9.6	25	.31	140
ER030	U	.445	11.3	.375	9.6	25	.31	140
ER031	V	.445	11.3	.375	9.6	25	.31	140
ER032	W	.445	11.3	.375	9.6	25	.31	140
ER033	Y	.445	11.3	.375	9.6	25	.31	140
ER034	Z	.445	11.3	.375	9.6	25	.31	140
ER018	1	.445	11.3	.375	9.6	25	.31	140
ER037	2	.445	11.3	.375	9.6	25	.31	140
ER038	3	.445	11.3	.375	9.6	25	.31	140
ER039	4	.445	11.3	.375	9.6	25	.31	140
ER040	5	.445	11.3	.375	9.6	25	.31	140
ER041	6	.445	11.3	.375	9.6	25	.31	140
ER021	7	.445	11.3	.375	9.6	25	.31	140
ER042	8	.445	11.3	.375	9.6	25	.31	140
ER041	9	.445	11.3	.375	9.6	25	.31	140
ER024	0	.445	11.3	.375	9.6	25	.31	140
ER035	Minus/Hyphen	.445	11.3	.375	9.6	25	.31	140
ER036	Blank	.445	11.3	.375	9.6	25	.31	140
ER046	Plus +	.445	11.3	.375	9.6	25	.31	140
ER047	Earth	.445	11.3	.375	9.6	25	.31	140
ER048	Sine	.445	11.3	.375	9.6	25	.31	140
ER049	Slash	.445	11.3	.375	9.6	25	.31	140

Character size .218" (5.5mm)
Material. 025 (0.63mm) 316 stainless steel

Thomas & Betts Stainless Steel I.D. Tag Strips/Carriers

Cat. No.	Description	Length (in.)	Length (mm)	Width (in.)	Width (mm)	Std. Pkg.	Wt. per 100 (lbs)	Wt. per 100 (gms)
ER043	6 Character Carrier	3.64	92.5	.38	9.65	10	.73	325
ER044	10 Character Carrier	5.14	130.5	.38	9.65	10	1.25	556
ER045	16 Character Carrier	7.39	187.7	.38	9.65	10	1.47	668
ER050	Short Strip	4.25	108.0	.38	9.65	100	.98	446
ER051	Medium Strip	5.75	146.0	.38	9.65	100	1.33	605
ER052	Long Strip	8.0	203.2	.38	9.65	100	1.85	841
ER060	I.D. Tag Kit		—	—	—	1	—	—

I. D Tag Kit contains 50 of each letter, number, symbol, carrier and strip in a handy carrying case.

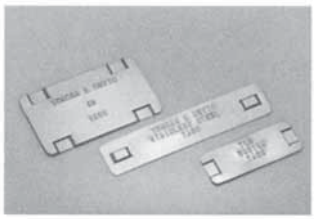
Ty-Rap®

Customized Embossed Tags Stainless Steel Tape Embossing System

I.D. Tagging System

Cat. No.	Width in.	Width mm	Length in.	Length mm	Weight lbs.	Weight kg.
SSID100	.75	19.05	2.0	51	0.5	.22
SSID101	1.50	38.10	2.5	63	1.2	.55
SSID102	.75	19.05	3.5	89	0.8	.36

304 Stainless Steel
Packaging Quantity: 100/box
.0 15 " (.254mm) Thickness
Add suffix (-316) for 316 Stainless Steel,

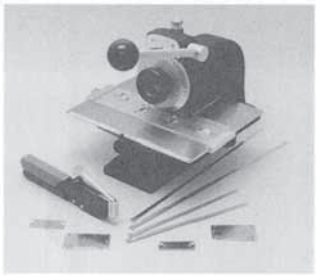


Identify your cable bundles with permanent, Type 304 stainless steel imprinted tags applied with stainless steel cable ties. After imprinting the tags, merely slip a tie through slots in the tag and fasten with the installation tool.

I.D. Tag Imprinter

Cat. No.	Description	Weight lbs.	Weight kg.
WTID200	I.D. Tag Imprinter	29.5	13.41
WTID281	1/8" character imprinting wheel	—	—
WTID283	3/16" character imprinting wheel	—	—
WTID290	3/32" character imprinting wheel	—	—

Packaging Quantity. 1/box



For imprinting Thomas & Betts stainless steel I.D. tags. Includes special tag holder which provides quick, accurate positioning of tag. Comes with a 3/32" character imprinting wheel.

S.S. Tape Embossing System

Cat. No.	Description	Weight lbs.	Weight kg.
WTID400	Hand-held tool for embossing S.S. I.D. Tape	2.57	1.17
WTID405	Replacement S.S. tape	.18	.01

304 Stainless Steel
Packaging Quantity: 1/box
Note. The embossing tool comes complete with two rolls of stainless steel tape.

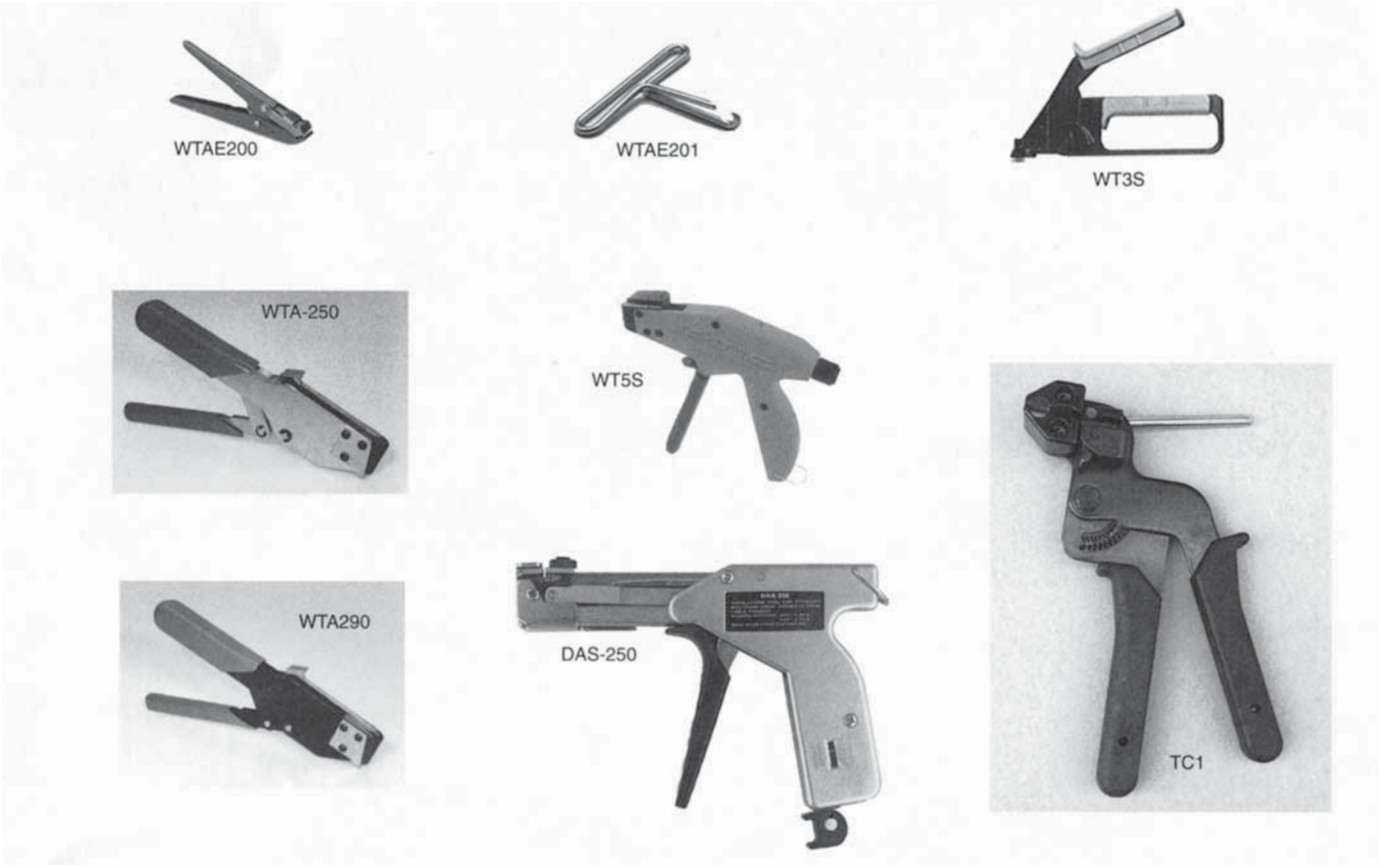
After making your tag, apply with stainless steel cable ties.

Ty-Rap®

Installing tools for Stainless Steel ties

Tools for Stainless Steel Ties

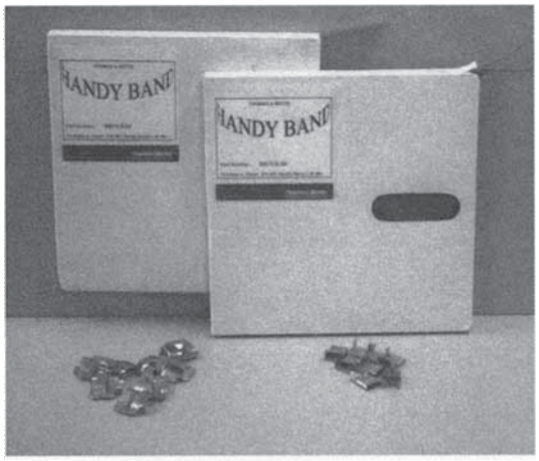
TC1	Tensioning tool for all ball lock and ladder type ties. Manual tension and cut off.
WTAE200	Tensioning tool for reusable ties and ladder ties
WTAE201	Tensioning hook for reusable ties and ladder ties
WT5S	Adjustable tension with auto cut off for ladder ties
WT3S	Economy tensioning tool for ladder ties
DAS-250	Adjustable tension and auto cut-off for ball lock and ladder ties
WTA250	Adjustable tension and auto cut-off for SS Standard ties
WTA290	Adjustable tension and auto cut-off for SS Mini ties



Thomas and Betts Stainless Steel Handy Band

Type 201 Stainless Steel Banding - 30mt Rolls				
	Width		Thickness	
Cat No	(in)	(mm)	(in)	(mm)
SB10-30	.375	9.53	.030	0.76
SB13-30	.500	12.7	.030	0.76
SB16-30	.625	15.88	.030	0.76
SB19-30	.750	19.05	.030	0.76
Ecomomy Type 201 Stainless Steel Buckle - 100 pack				
SBK10	.375	9.53		
SBK13	.500	12.7		
SBK16	.625	15.88		
SBK19	.750	19.05		

Also available in Type 316 Stainless Steel



Thomas and Betts Handy Band is an economical alternative for your general strapping requirements

BAND-IT Stainless Steel Banding

BAND-IT Type 201 Stainless Steel Banding - 30mt Rolls				
	Width		Thickness	
Cat No	(in)	(mm)	(in)	(mm)
C203	.375	9.53	.030	0.76
C204	.500	12.7	.030	0.76
C205	.625	15.88	.030	0.76
C206	.750	19.05	.030	0.76
BAND-IT Buckles Type 201 Stainless Steel				
C253	.375	9.53		
C254	.500	12.7		
C255	.625	15.88		
C256	.750	19.05		

Also available in Type 316 Stainless Steel

BAND-IT Buckles. Ear-Lokt Buckles in Type 201 stainless steel are designed to accomodate both single and double wrap clamps. The unique teeth and ears provide maximum clamping strength

BAND IT Band in Type 201 Stainless steel has been the industry standard for nearly 60 years with its superior yield and tensile strength properties for maximum clamping strength. All BAND-IT Sizes feature fully rounded smooth edges for safety and easy installation. For clamps of even greater strength, use a double wrap, threading the Ear-Lokt Buckle around each time.

Cat No: **BT-1**
Tension and cut-off tool

Cat No: **C001**
Tension and cut-off tool

Cat No: **C075**
Tension and cut-off tool

Ty-Rap®

Cable Ties-Material Selection Ordering Guide

Semi-automatic air tool speeds cable tying operations —increases productivity

- Semi-automatic operation produces fast, effortless tying; cinches and trims tie in one fast motion.
- Positive tail ejection ensures high operating efficiency.
- Precision engineered gives you long-term dependable service, reduces operator fatigue.
- Adjustable tension provides uniform, quality installations over wide bundle diameter range

The TR227 pistol-type, semiautomatic air tool provides quick, effortless cable tying. It installs self-locking TY-RAP® cable ties having body widths of .091" (2.31 mm) to .187" (4.75mm) regardless of the tie's length or diameter of the wire bundle.

The trigger activated pneumatic tool:

1. tightens the tie to a preset tension
2. trims it flush to the head
3. positively ejects the cut-off portion of the cable tie in a single stroke

The tool is so easy to operate that just installing a few ties is all the training required. This lightweight, precision tool is designed to be the workhorse in production tying operations. Its long barrel and narrow nose make it ideal for reaching into congested wire areas.

Designed with a comfort-grip handle to avoid operator fatigue, the tool is quality engineered to provide years of dependable service. Your wire harnessing and cable bundling will be accomplished quickly, easily, and at low installed cost.

Consistent tension for all bundle diameters

The tool has a convenient tension adjustment permitting each tie to be installed with the proper tension regardless of variations in the bundle diameter. To increase tension on the tie, turn the tension disc clockwise—to decrease tension, turn the disc counterclockwise.

The tension range is indicated by numbers on the disc from 1 to 8. Number 1 equals approximately 10 pounds (44 N), and number 8 equals approximately 30 pounds (133 N).

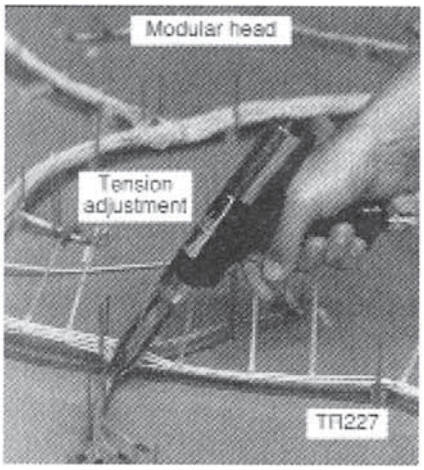
Modular head

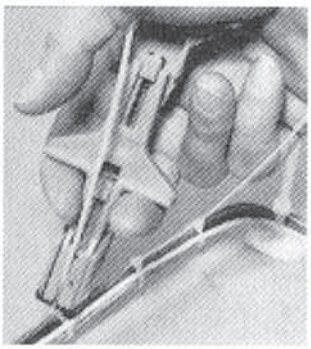
If difficulty should arise with operation of the tool, a convenient modular head allows quick replacement. Simple online repair downtime reduced to an absolute minimum.

Installation with WT1-TB and WT2-TB tools

Lightweight, hand-operated cable tying tools install cable ties up to .301 inch (7.65mm) wide and .080 inch (2.03mm) thick. Made of high-impact plastic and steel to withstand shock and rough handling, they are symmetrical in design for use by both left-hand and right-hand operators.

They cinch up the tie with a squeeze action, and cut away the excess tail when twisted 180 degrees. A specially designed pawl cuts away the tail if the tension limit is exceeded, thereby preventing the cable tie from being over tightened. Ideally suited to spot-tying applications.





Ty-Rap®

Cable Ties-Material Selection Ordering Guide

Introduction

Thomas & Betts offers TY-RAP® cable ties and accessories in a wide variety of materials, each suited for specific environments. The purpose of this document, therefore, is to assist you in choosing the best material for your particular application.

The effects of weathering, flame, chemicals, extreme temperatures and radiation on the different materials is clearly presented in tabular form. This will make it easy for you to determine the best material for your needs.

Once you have determined the most suitable material, you can choose from the wide variety of TY-RAP cable ties, identification ties, mounting bases ' lashing ties, etc., offered by Thomas & Betts.

General

There are a number of factors to be considered when choosing the proper materials for a specific environment. It is extremely difficult to provide data on all the possible combinations or conditions that can occur and, therefore, it is recommended that this information be used as a guideline and that cable tie samples be tested in the intended application by the user to determine suitability.

How to use Table 1:

If your application is in an extremely cold environment, three materials will answer your need: Tefzel*, nylon 12 and stainless steel.

If you also require high tensile strength, then stainless steel is your best choice. Where high strength is not required, nylon 12 might be your choice as it is the least costly.

This information is based on data provided by the manufacturers of the specific materials listed and is provided only as a general guide. No specific recommendation is intended. As each application may vary, testing should be conducted by the user in the intended environment.

Table 1 gives relative performance ratings of the different materials we offer. More detailed information is shown in Tables 2 and 3.

Table 1-relative performance ratings of materials

	Heat-Stabilized 6/6 Nylon as Used in TYH Series	Halar' as Used in TYY Series	Weatherable Acetal as Used in TYB Series	Standard 6/6 Nylon as Used in TY Series	6/6 Weather-Resistant Nylon as Used in TY X Series en	6/6 Fire-Retardant Nylon as Used in TY FR Series
Ultraviolet Resistant	1	5	4	1	4	1
Radiation Resistant	1	4	1	1	1	1
Low-Temperature Requirement	3	4	4	3	3	2
High-Temperature Requirement	4	4	2	3	3	3
Flammability Requirement	3	4	1	3	3	4
Relative Cost	Low	High	Med	Low	Low	Med
Chemical Resistance	See Table 3					

Table 1-relative performance ratings of materials-continued

	Weather-Resistant Nylon 12 as Used in TYC X Series	Polypropylene as Used in TYP Series	Weather-Resistant Polypropylene as Used in TYP X Series	Tefzel* as Used in TYZ Series	Stainless Steel as Used in TYS Series
Ultraviolet Resistant	4	1	4	5	5
Radiation Resistant	1	1	1	4	5
Low-Temperature Requirement	4	3	3	4	5
High-Temperature Requirement	2	2	2	4	5
Flammability Requirement	1	1	1	4	5
Relative Cost	Med	Low	Low	High	High
Chemical Resistance	See Table 3				

Ratings
5 = Most Suitable
I = Least Suitable

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**Trademark of Allied Fiber and Plastic*

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Cable Ties-Material Selection Ordering Guide

Table 2-physical properties of TY-RAP® cable tie materials

	Heat-Stabilized 6/6 Nylon as Used in TYH Series	Halar† as Used in TYY Series	Weatherable Acetal as Used in TYD Series	Standard 6/6 Nylon as Used in TY Series	Weather-Resistant 6/6 Nylon as Used in TY X Series	Fire-Retardant 6/6 Nylon as Used in TY FR Series	Weather-Resistant Nylon 12 as Used in TYC X Series	Natural Polypropylene as Used in TYP Series	Weather-Resistant Polypropylene as Used in TYP X Series	Tefzel* as Used in TYZ Series	Stainless Steel as Used in TYS Series
Tensile Strength P.S.I. at 50 % R.H., 73°F (23°C)	(1) 8500 Yield	(1) 7000 Break	(1) 6500 Break	(1) 8500 Yield	(1) 9000 Yield	(1) 5500 Yield	(1) 5800 Yield	(1) 4600 Yield	(1) 4600 Yield	(1) 6500 Break	4000 Yield
Elongation at Break_% 50% R.H., 73°F (23°C)	(1) 300	(1) 200	(1) 200	(1) 300	(1) 200	(1) 75	(1) 250	(1) 200 Min.	(1) 200 Min.	(1) 200	50 Min.
Notched Izod (2) Impact Strength 50% R.H., 73°F (23°C)	2.1	No Break	17	2.1	2.0	1.7	1.4	0.45	0.40	No Break	—
Notched Izod (2) Impact Strength Low Temperatures	.5 at -40°F -40°C	2-3 at -40°F -40°C		.5 at -40°F -40°C	.6 at -40°F -40°C	—	1.3 at —40°F —40°C	—	—	20 Min. at -65°F —54°C	—
Flammability Rating-U.L.	94V-2	94V-0	94HB	94V-2	(3) 94V-2	94V-0			—	94V-0	—
Radiation Resistance Rads	1×10^6	2×10^8	—	1×10^6	1×10^6	—	—	1×10^6	1×10^6	2×10^8	2×10^8
Ultraviolet Light Resistance	Poor	Excellent	Very Good	Poor	Good	Poor	Good	Poor	Good	Excellent	Excellent
Water Absorption %(4)	8.5 Max.	<O.1%	Low	8.5 Max.	8.5 Max.	.9 24 Hrs.	1.5 Max.	.02 24 Hrs.	.02 24 Hrs.	.03 Max.	—
Max, Continuous Temp. °F	221	302	185	185	185	185	185	185	185	302	1000
°C	40	65	29	29	29	29	29	29	29	65	537
Min. Continuous Temp. °F	-40	-50	-40	-40	-40	-40	-40	-40	-40	-50	-112
°C	-40	-46	-40	-40	-40	-40	-40	-40	-40	-46	-62
Color	Green Tint	Maroon	Black	Milky White	Black	Off White	Black	Light Green	Black	Aqua	Stainless Steel

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Flammability ratings for selecting TY-RAP® cable ties

Note: Flammability ratings of TY-RAP cable tie materials are shown in Table 2. These tests for flammability of plastic material are intended to serve as a preliminary indication of acceptability with respect to flammability for particular applications.

UL 94 vertical burn test procedures

Test specimens of the material, with dimensions 5" x 1/2", with the thickness intended for use in the end product, are tested in both the manufactured condition and in the aged state. The test requires that the specimen be supported in a vertical fixture and a precisely controlled flame applied for a 10 second period. The flame is removed and the duration of flaming is noted. If the flame extinguishes, a second exposure to flame for 10 seconds is applied and duration of flaming is again noted. It is observed and recorded whether or not test specimens drip flaming particles that ignite a cotton swatch.

Material classed 94V-0:

A material classed 94V-O shall:

A. Not have any specimens that burn with flaming combustion for more than 10 seconds after either application of the test flame.

B. Not have a total flaming combustion time exceeding 50 seconds for the 10 flame applications for each set of five specimens.

C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.

D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 12" below the test specimen.

E. Not have any specimens with glowing combustion that persists for more than 30 seconds after the second removal of the test flame.

Materials classes 94V-1:

A material classed 94V-1 shall:

A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame.

B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.

C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.

D. Not have any specimens that drip flaming particles that ignite the dry absorbent surgical cotton located 12` below the test specimen.

E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

Materials classed 94V-2:

A material classed 94V-2 shall:

A. Not have any specimens that burn with flaming combustion for more than 30 seconds after either application of the test flame.

B. Not have a total flaming combustion time exceeding 250 seconds for the 10 flame applications for each set of five specimens.

C. Not have any specimens that burn with flaming or glowing combustion up to the holding fixture.

D. Be permitted to have specimens that drip flaming particles that burn only briefly, some of which ignite the dry absorbent surgical cotton placed 12" below the test specimen.

E. Not have any specimens with glowing combustion that persists for more than 60 seconds after the second removal of the test flame.

Ty-Rap®

Cable Ties-Material Selection Ordering Guide

Chemical resistance

Table 3 shows the resistance of TY-RAP™ cable tie materials to various chemicals. The table is designed to help you determine the cable tie material best suited for a particular chemical environment.

Table 3

-resistance of available materials to various chemicals temp 70°F (21°C)

Reagents	Concentration	Heat-Stabilized 6/6 Nylon as— Used in TYH Series	Halar† as Used in TYY Series	Weatherable Acetal as Used in TYB Series	Standard 6/6 Nylon as Used in TY Series	6/6 Weather-Resistant Nylon as Used in TY X Series	6/6 Fire-Retardant Nylon as Used in TY FR Series	Weather-Resistant Nylon 12 as Used in TYC X Series	Polypropylene as Used in TYP Series	Weather-Resistant Polypropylene as Used in TYP X Series	Tefzel* as Used in TYZ Series	Stainless Steel as Used in TYS Series
Arsenic Acid	40%	—	—	—	—	—	—	—	E	E	—	E
Acetaldehyde	50%	S	—	—	S	S	S		—	—	—	—
Acetone100%	100%	E	E	F	E	E	E	E	E	E	E	E
Aluminum Hydroxide	AQ	—	E	—	—	—	—	—	E	E	E	E
Ammonia	All	—	E	—	—	—	—	E	E	E	E	—
Ammonium Carbonate	5%	S	E	—	S	S	S	E	E	E	E	E
Ammonium Hydroxide	10%	E	E	F	E	E	E	—	E	E	E	E
Ammonium Nitrate	—	—	E	—	—	—	—	E	E	E	E	E
Ammonium Sulfate	10%	—	E	—	—	—	—	S	S	S	S	S
Barium Carbonate	All	—	E	—	—	—	—	E	E	E	E	E
Barium Chloride	5%	NR		—	NR	NR	NR	E	E	F	E	E
Barium Sulfate	10%	E		—	E	E	E	E	E	E	E	E
Barium Sulfide	10%	S		—	S	S	S	E	E	E	E	E
Benzene100%	100%	E	E	F	E	E	E	E	S	S	E	E
Benzoic Acid	100%	NR	E	—	NR	NR	NR	E	E	E	E	E
Butyric Acid	50%	NR	E	—	NR	NR	NR	—	E	E	E	E
Calcium Carbonate	AQ	—	E	—	—	—	—	—	E	E	E	E
Calcium Chlorate	10%	—	E	—	—	—	—	—	E	E	E	E
Calcium Hydroxide	20%	—	F	E	—	—	—	—	E	E	E	E
Calcium Hydrochlorite	2	NR	—	—	NR	NR	NR	—	F	F	F	F
Calcium Sulfate	2%	—	E	—	—	—	—	—	E	E	E	E
Carbon Tetrachloride	100%	E	E	E	E	E	E	E	F	F	E	E
Chlorine (WET)	—	NR	—	—	NR	NR	NR	—	F	F	F	F
Chlorine (DRY)	—	NR	—	—	NR	NR	NR	—	NR	NR	F	F
Chloroacetic Acid	30%	NR	—	—	NR	NR	NR	—	—	—	F	F
Chloroform	100%	—	E	—	—	—	—	F	F	F	E	E
Chromic Acid	50%	NR	S	—	NR	NR	NR	—	F	F	F	F
Citric Acid	50%	S	E	E	S	S	S	E	E	E	E	E
Copper Cyanide	10%	—	E	—	—	—	—	—	E	E	E	E
Copper Nitrate	50%	—	E	—	—	—	—	—	E	E	E	E
Cider	—	—	E	—	—	—	—	—	E	E	E	E
Dichloroethane	100%	—	E	—	—	—	—	—	—	—	E	E
Diethyl Ether	100%	—	E	S	—	—	—	E	E	E	E	E
Ethyl Alcohol	100%	S	E	—	S	S	S	E	E	E	E	E

** Trademark of E. /. DuPont deNemours and Company*
† Trademark of Allied Fiber and Plastic
Ratings
E = Excellent
S = Satisfactory
F= Fair
NR = Not Recommended
(AQ = Aqueous)

Ty-Rap®

Cable Ties-Material Selection Ordering Guide

Table 3-continued

Reagents	Concentration	Heat-Stabilized 6/6 Nylon as Used in TYH Series	Halar® as Used in TYV Series	Weatherable Acetal as Used in TYB Series	Standard 6/6 Nylon as Used in TY Series	6/6 Weather-Resistant Nylon as Used in TY X Series	6/6 Fire-Retardant Nylon as Used in TY FR Series	Weather-Resistant Nylon 12 as Used in TYC X Series	Polypropylene as Used in TYP Series	Weather-Resistant Polypropylene as Used in TYP X Series	Tefzel® as Used in TYZ Series	Stainless Steel as Used in TYS Series
Ethyl Chloride	100%	—	S	E	—	—	—	F	F	F	E	E
Ethylene Glycol	100%	E	E	S	E	E	E	—	E	E	E	E
Ferric Hydroxide	All	—	E	—	—	—	—	—	E	E	E	E
Ferric Nitrate	10%	—	E	—	—	—	—	—	E	E	E	E
Ferrous Sulfate	10%	—	E	—	—	—	—	—	E	E	E	E
Fuel Oil	100%	—	E	—	—	—	—	E	—	—	E	E
Furfural	100%	—	E	—	—	—	—	—	F	F	E	E
Gallic Acid	AQ	—	E	—	—	—	—	—	—	—	E	E
Gasoline	100%	E	E	—	E	E	E	—	S	S	E	E
Glycerine	100%	—	E	—	—	—	—	E	E	E	—	E
Hydrocyanic Acid	All	—	E	—	—	—	—	—	E	E	E	E
Hydrogen Peroxide	30%	NR	E	F	NR	NR	NR	S	E	E	E	E
Hydrogen Sulfide	Dry	NR	E	—	NR	NR	NR	E	E	E	E	E
Iodoform	100%	—	E	—	—	—	—	—	—	—	E	E
Isopropyl Alcohol	100%	S	E	—	S	S	S	E	E	E	E	E
Jet Fuel	100%	E	E	—	E	E	E	—	S	S	E	E
Lactic Acid	10%	E	E	—	E	E	E	S	E	E	E	E
Lanolin	10%	E	E	—	E	E	E	E	E	E	E	E
Lead Acetate	5%	—	E	—	—	—		—	E	E	E	E
Linseed Oil	10%	E	E	E	E	E	E	E	E	E	E	E
Magnesium Carbonate	All	—	E	—	—	—	—	E	E	E	E	E
Magnesium Chloride	10%	F	—	—	F	F	F	F	F	F	F	F
Magnesium Nitrate	All	—	E	—	—	—	—	E	E	E	E	E
Malic Acid	AQ	—	E	—	—	—	—	—	E	E	E	E
Mercury	100%	—	E	—	—	—	—	E	E	E	E	E
Methyl Alcohol	100%	S	E	—	S	S	S	E	E	E	F	E
Methyl Chloride	100%	—	S	—	—	—	—	—	S	S	E	E
Methyl Ethyl Ketone	100%	—	E	F	—	—	—	E	E	E	E	E
Naptha	100%	—	E	—	—	—	—	—	E	E	E	E
Nitric Acid	30%	NR	E	NR	NR	NR	NR	—	E	E	E	E
Nitric Acid	30-70%	NR	S	NR	NR	NR	NR	—	F	F	S	E
Nitrous Acid	5%	—	E	—	—	—	NR	—	F	F	E	E
Oleic Acid	100%	—	E	S	—	—	—	—	E	E	E	E
Oxalic Acid	10%	—	E	—	—	—	—	S	E	E	E	E
Paraffin	100%	E	E	—	E	E	E	E	E	E	E	E
Petroleum Ether	100%	—	E	—	—	—	—	E	F	F	E	E
Phenol	90%	NR	E	NR	NR	NR	NR	—	E	E	E	E
Phosphoric Acid	10%	NR	E	—	NR	NR	NR	—	E	E	E	E
Picric Acid	1%	—	E	—	—	—	—	—	E	E	E	E
Potassium Bromide	AQ	—	—	—	—	—	—	—	S	S	S	S

Ratings
E = Excellent
S = Satisfactory
F= Fair
NR = Not Recommended
(AQ = Aqueous)

Ty-Rap®

Cable Ties-Material Selection Ordering Guide

Table 3-continued

Reagents	Concentration	Heat-Stabilized 6/6 Nylon as Used in TYH Series	Halar† as Used in TYV Series	Weatherable Acetal as Used in TYB Series	Standard 6/6 Nylon as Used in TY Series	6/6 Weather-Resistant Nylon as Used in TY X Series	6/6 Fire-Retardant Nylon as Used in TY FR Series	Weather-Resistant Nylon 12 as Used in TYC X Series	Polypropylene as Used in TYP Series	Weather-Resistant Polypropylene as Used in TYP X Series	Tefzel* as Used in TYZ Series	Stainless Steel as Used in TYS Series
Potassium Carbonate	1%	E	—	—	—	—	E	E	E	E	E	—
Potassium Chlorate	AQ	—	E	—	—	—	—	S	E	E	E	E
Potassium Dichromate	40%	NR	E	—	NR	NR	NR	F	E	E	E	E
Potassium Ferrocyanide	25%	—	E	—	—	—	—	—	E	E	E	E
Potassium Hydroxide	5%	S	E	—	S	S	S	—	E	E	E	E
Potassium Iodide	All	—	E	—	—	—	—	E	E	E	E	E
Potassium Nitrate	50%	F	E	—	F	F	F	E	E	E	E	E
Potassium Permanganate	5%	NR	E	S	NR	NR	NR	NR	E	E	E	E
Potassium Sulfate	5%	—	E	—	—	—	—	E	E	E	E	E
Potassium Sulfide	AQ	—	E	—	—	—	—	—	E	E	E	E
Propyl Alcohol	100%	E	E	—	E	E	E	—	E	E	E	E
Silver Nitrate	10%	—	E	—	—	—	—	E	E	E	E	E
Sodium Acetate	60%	E	E	—	E	E	E	—	E	E	E	E
Sodium Bicarbonate	All	E	E	—	E	E	E	E	E	E	E	E
Sodium Bisulfate	10%	—	E	E	—	—	—	E	E	E	E	E
Sodium Borate	All	—	E	—	—		—	—	E	E	E	E
Sodium Carbonate	5%	E	E	S	E	E	E	E	E	E	E	E
Sodium Chlorate	25%	—	E	E	—	—	—	S	E	E	E	E
Sodium Chloride	2%	E	E	S	E	E	E	E	E	E	E	E
Sodium Fluoride	5%	—	—	—	—	—	—	—	F	F	F	F
Sodium Hydroxide	10%	E	E	S	E	E	E	E	E	E	E	E
Sodium Hyposulfite	AQ	—	E	—	—	—	—	—	—	—	E	E
Sodium Nitrate	5%	E	E	—	E	E	E	E	E	E	E	E
Sodium Nitrite	AQ	—	E	—	—	—	—	S	E	E	E	E
Sodium Perchlorate	10%	—	E	—	—	—	—	—	—	—	E	E
Sodium Phosphate	5%	—	E	—	—	—	—	E	E	E	E	E
Sodium Sulfate	5%	S	E	—	S	E	E	E	E	E	E	E
Sodium Thiosulfate	5%	—	—	S	—	—	—	S	S	S	S	S
Stearic Acid	100%	—	E	—	—	—	—	F	E	E	E	E
Sulfur	100%	—	E	—	—	—	—	E	E	E	E	E
Sulfur Dioxide	All	NR	E	—	NR	NR	NR	E	E	E	E	E
Sulfuric Acid	Conc.	NR	E	NR	NR	NR	NR	—	S	S	E	E
Sulfuric Acid	5%	NR	F	F	NR	NR	NR	F	F	F	F	F
Tannic Acid	10%	—	E	—	—	—	—	—	E	E	E	E
Tartaric Acid	50%	—	E	E	—	—	—	E	E	E	E	E
Tetrahydrofuran	100%	—	F	E		—	—	S	F	F	E	E
Toluene	100%	E	E	F	E	E	E	E	F	F	E	F
Xylene	100%	E		—	E	E	E	E	F	F	E	E
Zinc Chloride	70%	F	E	NR	F	F	F	E	E	E	E	E
Zinc Nitrate	AQ	—	E	—	—	—	—	E	E	E	E	E
Zinc Sulfate	AQ	—	E	—	—	—	—	E	E	E	E	E

** Trademark of E.I. DuPont deNemours and Company* *†Trademark of Allied Fiber and Plastic*

Ratings
E= Excellent
S = Satisfactory
F= Fair
NR = Not Recommended
(AQ= Aqueous)

Ty-Rap®

Product Index

Cat No.	Page No.
696-41794	20
696-41795	20
C203	35
C204	35
C205	35
C206	35
C253	35
C254	35
C255	35
C256	35
CSS-B	21
CSS-H	21
DAS-250	34
ER010	32
ER011	32
ER012	32
ER013	32
ER014	32
ER015	32
ER016	32
ER017	32
ER018	32
ER019	32
ER020	32
ER021	32
ER022	32
ER023	32
ER024	32
ER025	32
ER026	32
ER027	32
ER028	32
ER029	32
ER030	32
ER031	32
ER032	32
ER033	32
ER034	32
ER035	32
ER036	32
ER037	32
ER038	32
ER039	32
ER040	32
ER041	32
ER042	32
ER043	32
ER044	32
ER045	32
ER046	32
ER047	32
ER048	32
ER049	32
ER050	32
ER051	32
ER052	32
ER060	32
ERG297	27
ERG299	27
FO200-40	25
FO200-50	25
FO350-40	25
FO350-50	25
FOL300-50	25
FOL500-50	25
FOR180-50	25
FOS150-50	25
FOS320-50	25
FOS500-50	25
GRPE-040-9-C	23
GRPE-052-9-C	23
GRPE-062-9-C	23
GRPE-085-9-C	23
GRPE-100-9-C	23
GRPE-125-9-C	23
GRPE-187-9-C	23
GRPE-250-9-C	23
HCP438	18
K011	30
K012	30
K013	30
K014	30
K015	30
K016	30
K017	30
K018	30
K019	30
K041	30
K042	30
K043	30
K044	30
K045	30
K046	30
K047	30
K048	30
K049	30
L-18-120-9-L	24
L-18-175-0-L	24
L-24-175--0-L	24
L-24-175-9-L	24
L-300	27
L-36-175-0-L	24
L-36-175-9-L	24
L-400	27
L-48-175-0-L	24
L-48-175-9-L	24
LSY-4.6-1000B	28
LSY-4.6-100B	28
LSY-4.6-100XB	28
LSY-4.6-150B	28
LSY-4.6-200B	28
LSY-4.6-360B	28
LSY-4.6-50XB	28
LSY-4.6-520B	28
LSY-4.6-680B	28
LSY-4.6-840B	28
LSY-4.6-HEADB	28
LSY-7.9-1000B	28
LSY-7.9-100B	28
LSY-7.9-100XB	28
LSY-7.9-1200B	28
LSY-7.9-1300B	28
LSY-7.9-1400B	28
LSY-7.9-150B	28
LSY-7.9-200B	28
LSY-7.9-360B	28
LSY-7.9-50XB	28
LSY-7.9-520B	28
LSY-7.9-680B	28
LSY-7.9-840B	28
LSY-7.9-HEADB	28
MPNY-1000-0-C	13
MPNY-1000-0-D	13
MPNY-1000-9-C	13
MPNY-1000-9-D	13
MPNY-1000A-0-C	13
MPNY-1000A-0-D	13
MPNY-1000A-9-C	13
MPNY-1000A-9-D	13
MPNY-1000S-0-C	13
MPNY-1000S-0-D	13
MPNY-1000S-9-C	13
MPNY-1000S-9-D	13
P-10-50R-0-C	11
P-10-50R-0-D	11
P-10-50R-9-C	11
P-10-50R-9-D	11
P-5-50R-0-C	11
P-5-50R-0-D	11
P-5-50R-9-C	11
P-5-50R-9-D	11
P-8-50R-0-C	11
P-8-50R-0-D	11
P-8-50R-9-C	11
P-8-50R-9-D	11
SB10-30	35
SB13-30	35
SB16-30	35
SB19-30	35
SBK10	35
SBK13	35
SBK16	35
SBK19	35
SF100-18	12
SF100-18X	12
SF175-50	12
SF175-50X	12
SF300-50	12
SF300-50X	12
SF400-120	12
SF400-120X	12
SF400-50	12
SF400-50X	12
SF600-120	12
SF600-120X	12
SRFR-125-WH-C	23
SRFR-187-WH-C	23
SRFR-250-WH-C	23
SRFR-375-WH-C	23
SRFR-500-WH-C	23

Ty-Rap®

Cat No.	Page No.
SRNY-250-9-C	23
SRNY-375-9-C	23
SRNY-500-9-C	23
SRPE-1000-0-C	23
SRPE-1000-9-C	23
SRPE-125-0-C	23
SRPE-125-9-C	23
SRPE-187-0-C	23
SRPE-187-9-C	23
SRPE-250-0-C	23
SRPE-250-9-C	23
SRPE-375-0-C	23
SRPE-375-9-C	23
SRPE-500-0-C	23
SRPE-500-9-C	23
SRPE-625-0-C	23
SRPE-625-9-C	23
SRPE-750-0-C	23
SRPE-750-9-C	23
SSID100	33
SSID101	33
SSID102	33
SSR12-250C	31
SSR12-375C	31
SSR18-375C	31
SSR24-250C	31
SSR24-375C	31
SSR30-375C	31
SSR36-375C	31
SSR6-250C	31
SSR6-375C	31
SSR9-250C	31
SSR9-375C	31
ST150/7	29
ST1000/12	29
ST1000/7	29
ST150/12	29
ST200/12	29
ST200/7	29
ST250/7	29
ST300/12	29
ST300/7	29
ST360/12	29
ST450/12	29
ST450/7	29
ST600/12	29
ST600/7	29
ST750/12	29
ST750/7	29
TC1	28
TC101	15
TC102	15
TC103	15
TC104	15
TC105	13
TC106	17
TC109	17
TC1101	16
TC1102	16
TC1103	16

Cat No.	Page No.
TC1104	16
TC1105	16
TC1112	16
TC1113	16
TC1114	16
TC1115	16
TC1116	16
TC1117	16
TC112-TB	15
TC115-TB	17
TC116-TB	17
TC118-TB	17
TC120	17
TC121-TB	16
TC123-TB	6
TC124-TB	6
TC125-TB	6
TC126-TB	6
TC128-TB	6
TC140	16
TC141	16
TC142	16
TC187	16
TC223-TB	6
TC224-TB	6
TC225-TB	6
TC226-TB	6
TC228-TB	6
TC2PA	13
TC342	13
TC342A	13
TC342A-X	13
TC342X	13
TC343A	13
TC344A	13
TC344AX	13
TC345	13
TC345A	13
TC345AFR	13
TC345AX	13
TC346A	13
TC347A	13
TC347FR	13
TC347X	13
TC348A	13
TC353A	13
TC368	25
TC368A	25
TC375	17
TC376	17
TC502	15
TC503	15
TC5141	16
TC5142	16
TC5254	19
TC5339	18
TC5342A	13
TC5343A	13
TC5344A	13
TC5345A	13

Cat No.	Page No.
TC5347A	13
TC5348A	13
TC5353A	13
TC5355	14
TC5356	14
TC5357	14
TC5358	14
TC5359	14
TC5363X	14
TC5823	15
TC70	18
TC71	18
TC72	18
TC73	18
TC74	18
TC804	15
TC812-TB	15
TC814-TB	15
TC815-TB	15
TC817-TB	13
TC823-TB	16
TC824-TB	13
TC826-TB	15
TC828-TB	15
TC839	18
TC88	18
TC92	18
TC95	18
TCH121	16
TCP5255	21
TCS25	29
TCZ347	13
TR227	26
TY075-18	24
TY075-18X	24
TY125-18	24
TY125-18X	24
TY125-40	24
TY125-40X	24
TY175-50	24
TY175-50X	24
TY200-120	24
TY200-120X	24
TY200-18	24
TY200-18X	24
TY200-40	24
TY200-40X	24
TY2315M	4
TY2315MX	4
TY232M	4
TY232MX	4
TY234M	4
TY234MX	4
TY23M	4
TY23MFR	9
TY23MX	4
TY242M	4
TY242MX	4
TY244M	4
TY244MX	4

Ty-Rap®

Product Index

Cat No.	Page No.
TY24M	4
TY24MFR	9
TY24MX	4
TY253M	4
TY253MX	4
TY25M	4
TY25MFR	9
TY25MX	4
TY26M	4
TY26MX	4
TY272M	4
TY272MFR	9
TY272MX	4
TY275M	4
TY275MX	4
TY277M	4
TY277MX	4
TY27M	4
TY27MFR	9
TY27MX	4
TY28M	4
TY28MFR	9
TY28MX	4
TY29M	4
TY29MX	4
TY300-40	24
TY300-40X	24
TY300-50	24
TY300-50X	24
TY33M	5
TY33MX	5
TY34M	5
TY34MX	5
TY3510M	4
TY3510MX	4
TY354M	5
TY354MX	5
TY35M	5
TY35MX	5
TY37M	5
TY37MX	5
TY38M	5
TY400-120	24
TY400-120X	24
TY400-50	24
TY400-50X	24
TY4513M	4
TY4513MX	4
TY46M	6
TY46MD	6
TY46MF	6
TY46MT	6
TY48M	6
TY500-50	24
TY500-50X	24
TY512M	6
TY51M	6
TY523M	4
TY52315M	4
TY5232M	4
TY5232MX	4
TY5234M	4
TY5234MX	4
TY523MFR	9
TY523MX	4
TY5242M	4
TY5242MX	4
TY5244M	4
TY5244MX	4
TY524M	4
TY524MFR	9
TY524MX	4
TY5253M	4
TY5253MX	4
TY525M	4
TY525MFR	9
TY525MX	4
TY526M	4
TY526MX	4
TY5272M	4
TY5272MFR	9
TY5272MX	4
TY5275M	4
TY5275MX	4
TY5277M	4
TY5277MX	4
TY527M	4
TY527MFR	9
TY527MX	4
TY528M	4
TY528MFR	9
TY528MX	4
TY529M	4
TY529MX	4
TY532M	6
TY533M	5
TY533MX	5
TY53418PX	19
TY534M	5
TY534MX	5
TY53510M	4
TY53510MX	4
TY5354M	5
TY5354MX	5
TY535M	5
TY535MX	5
TY537M	5
TY537MX	5
TY538M	5
TY53M	6
TY53MFR	9
TY5409	19
TY541M	8
TY544MX	8
TY5413M	4
TY54513MX	4
TY545MX	8
TY546M	6
TY546MD	6
TY546MT	6
TY548M	6
TY54M	5
TY5512M	6
TY553M	6
TY553MFR	9
TY554M	5
TYC25MX	9
TYC272MX	9
TYC27MX	9
TYC28MX	9
TYC525MX	9
TYC5272MX	9
TYC527MX	9
TYC528MX	9
TYD-50R	20
TYD-LH	20
TYH24M	10
TYH25M	10
TYH27M	10
TYH28M	10
TYH524M	10
TYH525M	10
TYH527M	10
TYH528M	10
TYL1000MX	11
TYL300M	11
TYL300MX	11
TYL546M	11
TYL546MX	11
TYM5412X	19
TYM5412X-S	19
TYM5418X	19
TYM5418X-S	19
TYM5423X	19
TYM5423X-S	19
TYP525MX	10
TYP527MX	10
TYP528MX	10
TYR505	8
TYR508	8
TYS14	29
TYS22	29
TYS28	29
TYS8	29
TYV523M	10
TYV525M	10
TYZ523M	10
TYZ525M	10
TYZ527M	10
TYZ528M	10
UCT50R	22
UCTLH	22
WT193A	26
WT197	26
WT199	26
WT1	26
WT2	26
WT3D	21
WT3S	26
WT5S	34

Ty-Rap®

Cat No. Page No.

WTA250 34
WTA290 34
WTAE200 34
WTAE201 34
WTID200 33
WTID281 33
WTID283 33
WTID290 33
WTID400 33
WTID405 33

Cable Ties — Approvals

Underwriters laboratories — U.L. File E49405

Products covered:

- **Self-Locking "TY-RAP" ties, Cat Nos.**

  TY23M, TY523M, TY132315M, TY52315M, TY24M, TY524M, TY25M, TY525M, TY26M, TY526M, TY27M, TY527M, TY272M, TY5272M, TY28M, TY528M, TY29M, TY529M, TY33M, TY533M, TY34M, TY534M, TY35M, TY535M, TY37M, TY537M, TY38M, TY538M, TY46M, TY546M, TY46MD, TY546MD, TY46MF, TY546MF, TY46MT, TY546MT, TY48M, TY548M, TY51M, TY551M, TY53M, TY553M, TY54M, TY554M, TY232M, TY5232M, TY234M, TY5234M, TY242M, TY5242M, TY244M, TY5244M, TY253M, TY5253M, TY271M, TY5271 M, TY354M, TY5354M TY512M, TY5512M, TY532M, TY5532M, TY635M, TYT635M, TYT837M, TY1435M, TY45M, TYR5, TYR8, TY275M, TY277M, TY527M, TY5277M. Suffix 0-9 may be added to indicate colour.

- **Mounting Bases for use with self-locking "TY-RAP" ties, Cat Nos.**

  TC826, TC828, TC815, TC101, TC103, TC301, TC1 40, TC1 41, TC1 42, TC1 21, TC823, TC07, TC820, TC1 13, TC114, TC116, TC118, TC120, TC102, TC804, TC112, TC812, TC814, TC104, TC1112, TC1113, TC1114, TC1115, TC1116, TC1117, TC1101, TC1102, TC1103, TC1104, TC1105, TC818, TC348, TC13 1, TC115, TC375, TC376, TC106, TC109, TC354.

American Military Specification MIL-S-23190

a) MS3367 Cable Ties

Catalogue Number	MS3367-X
TY25M	-1
TY28M	-2
TY27M	-3
TY23M	-4
TY24M	-5
TY29M	-6
TY253M	-7

b) MS3368 Identifying Series

Catalogue Number	MS3368-X
TY46M	1-A
TY48M	2-A
TY46MD	3-C
TY46MT	4-D
TY51M	5-E

C) MS90387 Tooling

Catalogue Number	MS3368-X
WT197	MS90387-2
WT199	MS90387-1

Ty-Rap®

Notes

Ty-Rap® Ty-Fast® Ty-Met® Safe-Ty®
Ty-Grip® Deltec™ BAND-IT® Handyband®

Thomas&Betts

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